WATER SUPPLY OUTLOOK FOR OREGON

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

UNITED STATES DEPARTMENT of AGRICULTURE···SOIL CONSERVATION SERVICE

and

OREGON STATE UNIVERSITY

and

STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above in cooperation with other Federal, State and private organizations.

AS OF

JAN. 1, 1967

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season as they affect runoff will add to be an effective average. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data or reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

Listed below are water supply outlook reports based on Federal-State-Private Cooperative snow surveys. Those published by the Soil Conservation Service may be obtained from Soil Conservation Service, Room 507, Federal Building, 701 N. W. Glisan, Portland, Oregon 97209.

PUBLISHED BY SOIL CONSERVATION SERVICE

D. A. WILLIAMS, Administrator

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 507, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85205
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80202
Idaho	P. O. Box 38, Boise, Idaho 83701
Montana	P. O. Box 855, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4001 Federal Building, Salt Lake City, Utah 84111
Washington	840 Bon Marche Bldg., Spokane, Washington 99206
Wyoming	P. O. Box 340, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia

USDA-SCS-PORTLAND, OREG 1966

WATER SUPPLY OUTLOOK
for
OREGON
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

ISSUED

JANUARY 8, 1967

Report prepared by

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and

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WILLAMETTE..... AREA 8

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KLAMATH..... AREA 10

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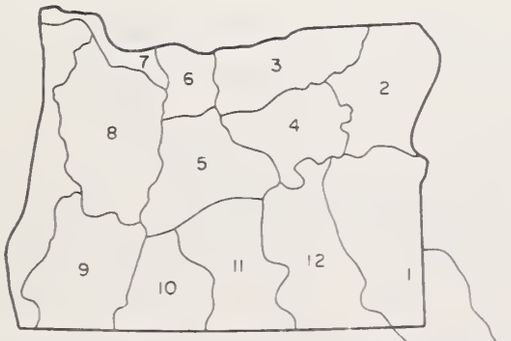
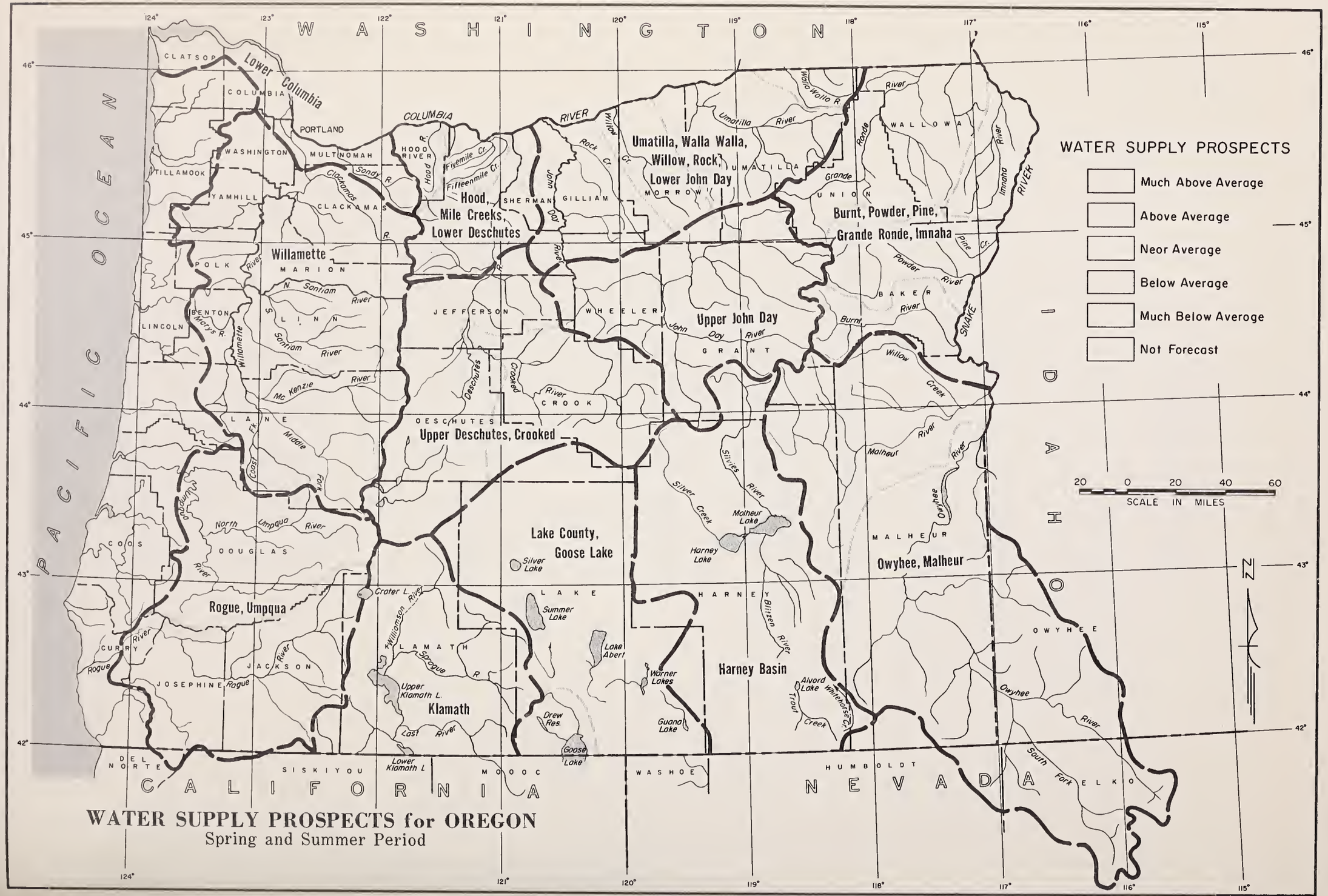
MAP AND INDEX OF OREGON SNOW COURSES.....(MAP)

LIST OF COOPERATORS.....INSIDE BACK COVER



WATERSHED AREA LOCATIONS



WATER SUPPLY PROSPECTS for OREGON

Spring and Summer Period

WATER SUPPLY OUTLOOK for OREGON

JANUARY 1, 1967

Outlook for 1967 water supplies in Oregon is generally fair to good. Poorest water supplies are expected for the Umatilla watershed in the north-central part of the state with definite shortages probable for lands served from McKay reservoir where storage water is seriously low.

SNOW COVER

Water content of the mountain snowpack on January first was about average east of the Cascades in the southern tier of counties and in the John Day basin. Elsewhere the snow is 75 to 80 percent of the 15-year average (1948-62) except in the Umatilla watersheds where the snowpack has a water content only 55 percent of the January first average.

Above average temperatures in November and December resulted in less snow accumulating on the lower elevations. Snow at the highest elevations was generally above average in water content.

SOIL MOISTURE

Soil moisture is better than average in the north-central and north-eastern sections where it will favor snow-melt runoff in the spring. In other sections the soils will soak up greater than usual amounts of snow-melt water.

Soil moisture variations are tied closely to precipitation totals accumulated since October 1, 1966 which are average or above with greatest amounts in the north-eastern section equaling 130 to 150 percent of the average.

RESERVOIR STORAGE

Water stored in 25 Oregon reservoirs, used primarily for irrigation, totals 93 percent of the 15 year average for January first and 70 percent of last year at this date.

Drought conditions in 1966 greatly reduced the amount of carry-over water supplies now available.

STREAMFLOW

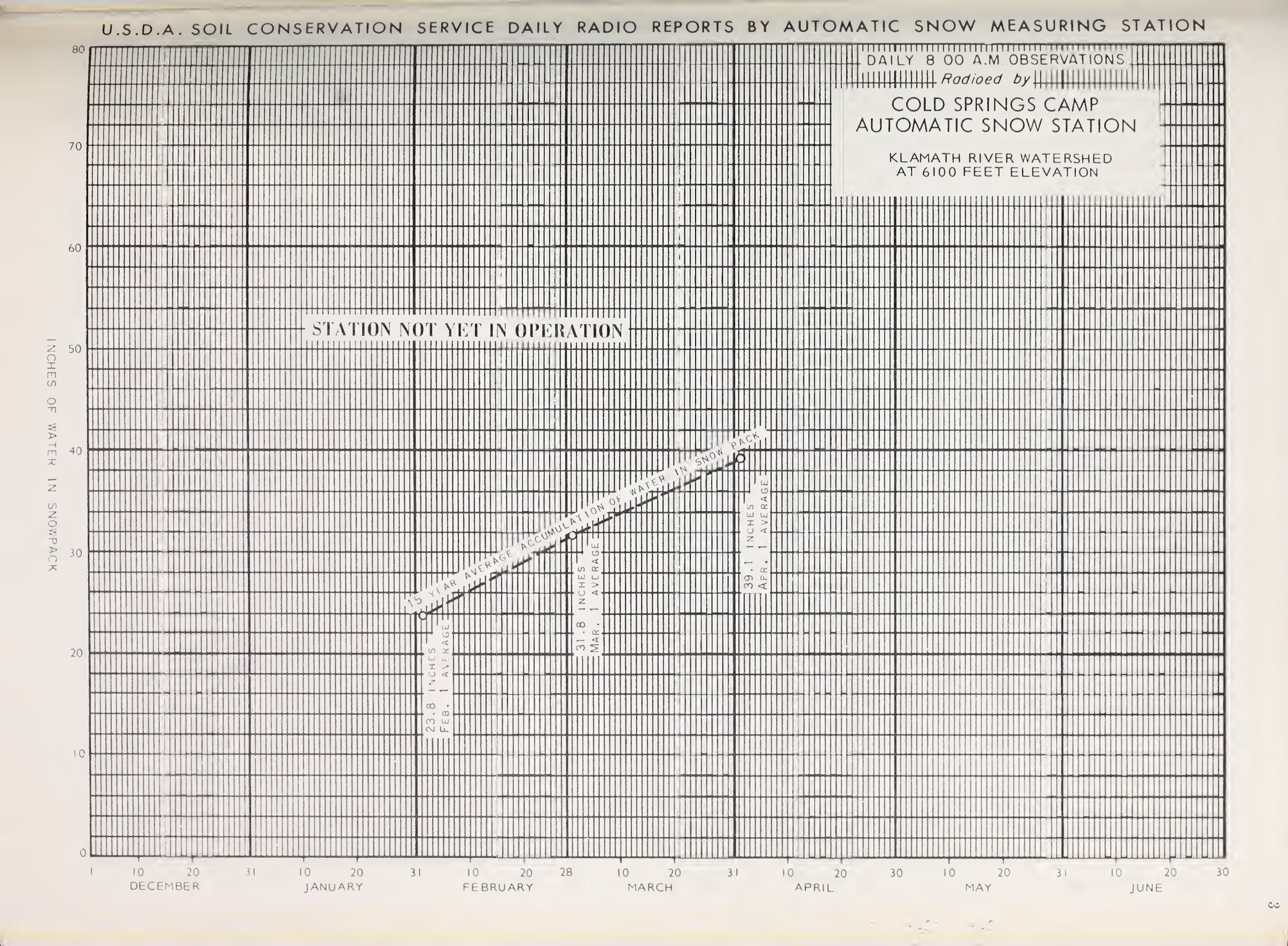
Flow of Oregon streams next spring and summer is expected to range from fair to good if snow continues to accumulate in average amounts during the balance of the winter.

continued --

Preliminary figures of streamflow* on key Oregon streams for the period October 1, 1966 to January 1, 1967 are as follows:

Lake Owyhee Net Inflow	84 percent average
Grande Ronde at Troy	76 percent average
Umatilla near Umatilla	69 percent average
John Day at Service Creek	114 percent average
Deschutes at Moody	83 percent average
Middle Fork Willamette below North Fork	105 percent average
Umpqua near Elkton	109 percent average
Rogue at Raygold	95 percent average
Upper Klamath Lake Net Inflow	91 percent average

* Preliminary data furnished by Current Records Center, U. S. Geological Survey; Oregon State Engineer; U. S. Bureau of Reclamation; Pacific Power and Light Company; North Board of Control-Owyhee Project.


U.S.D.A. SOIL CONSERVATION SERVICE DAILY RADIO REPORTS BY AUTOMATIC SNOW MEASURING STATION
DAILY 8 00 A.M. OBSERVATIONS
Radioed by
COLD SPRINGS CAMP
AUTOMATIC SNOW STATION
KLAMATH RIVER WATERSHED
AT 6100 FEET ELEVATION
STATION NOT YET IN OPERATION
15 YEAR AVERAGE ACCUMULATION OF WATER IN SNOW PACK
23.8 INCHES FEB. 1 AVERAGE
31.8 INCHES MAR. 1 AVERAGE
39.1 INCHES APR. 1 AVERAGE
INCHES OF WATER IN SNOWPACK
0
10
20
30
40
50
60
70
80
1
10
20
31
DECEMBER
10
20
31
JANUARY
10
20
28
FEBRUARY
10
20
31
MARCH
10
20
30
APRIL
10
20
31
MAY
10
20
30
JUNE

U.S.D.A. SOIL CONSERVATION SERVICE DAILY RADIO REPORTS BY AUTOMATIC SNOW MEASURING STATION

DAILY 8:00 A.M. OBSERVATIONS
Radioed by

IRISH-TAYLOR AUTOMATIC SNOW STATION

UPPER DESCHUTES RIVER WATERSHED
AT 5500 FEET ELEVATION

STATION NOT YET IN OPERATION

INCHES OF WATER IN SNOWPACK

80
70
60
50
40
30
20
10
0

15 YEAR AVERAGE ACCUMULATION OF WATER IN SNOW PACK

26.8 INCHES
FEB. 1 AVERAGE

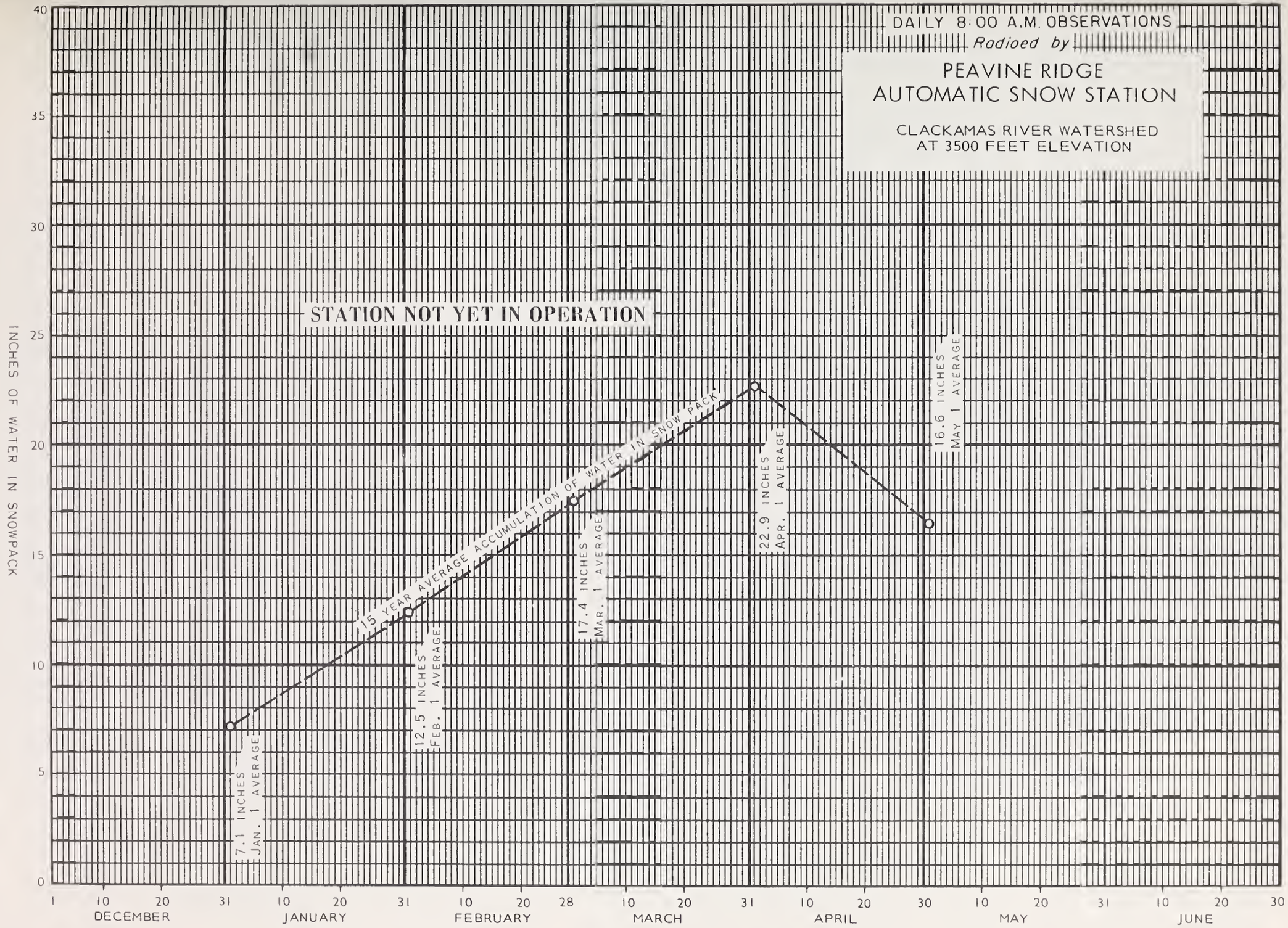
37.5 INCHES
MAR. 1 AVERAGE

44.6 INCHES
APR. 1 AVERAGE

1 10 20 31 10 20 31 10 20 28 10 20 31 10 20 30 10 20 31 10 20 30

DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE

U.S.D.A. SOIL CONSERVATION SERVICE DAILY RADIO REPORTS BY AUTOMATIC SNOW MEASURING STATION



U.S.D.A. SOIL CONSERVATION SERVICE DAILY RADIO REPORTS BY AUTOMATIC SNOW MEASURING STATION

DAILY 8:00 A.M. OBSERVATIONS

Radioed by

WILLAMETTE PASS AUTOMATIC SNOW STATION

MIDDLE FORK WILLAMETTE RIVER WATERSHED
AT 5600 FEET ELEVATION

STATION NOT YET IN OPERATION

INCHES OF WATER IN SNOWPACK

80
70
60
50
40
30
20
10
0

15 YEAR AVERAGE ACCUMULATION OF WATER IN SNOWPACK

28.5 INCHES FEB. 1 AVERAGE

37.7 INCHES MAR. 1 AVERAGE

46.3 INCHES APR. 1 AVERAGE

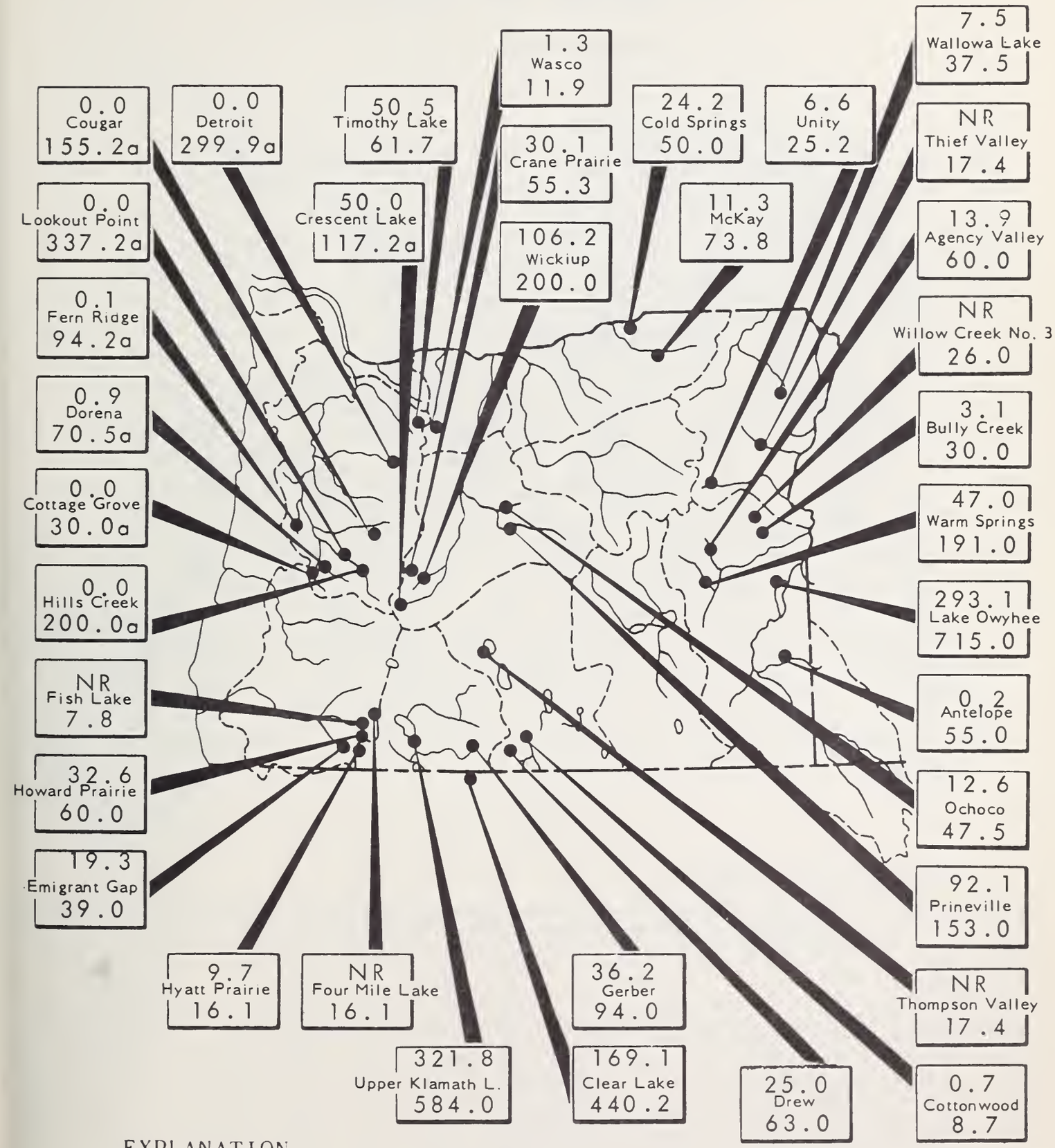
45.4 INCHES MAY 1 AVERAGE

1 10 20 31 10 20 31 10 20 28 10 20 31 10 20 30 10 20 31 10 20 30

DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE

STORAGE STATUS of OREGON RESERVOIRS
usable contents in thousands of acre feet

JANUARY 1, 1967



EXPLANATION

687.0 ---Contents
Lake Owyhee
715.0 ---Capacity

(a) Multiple purpose reservoir - space reserved for flood runoff.
N. R. - No report.

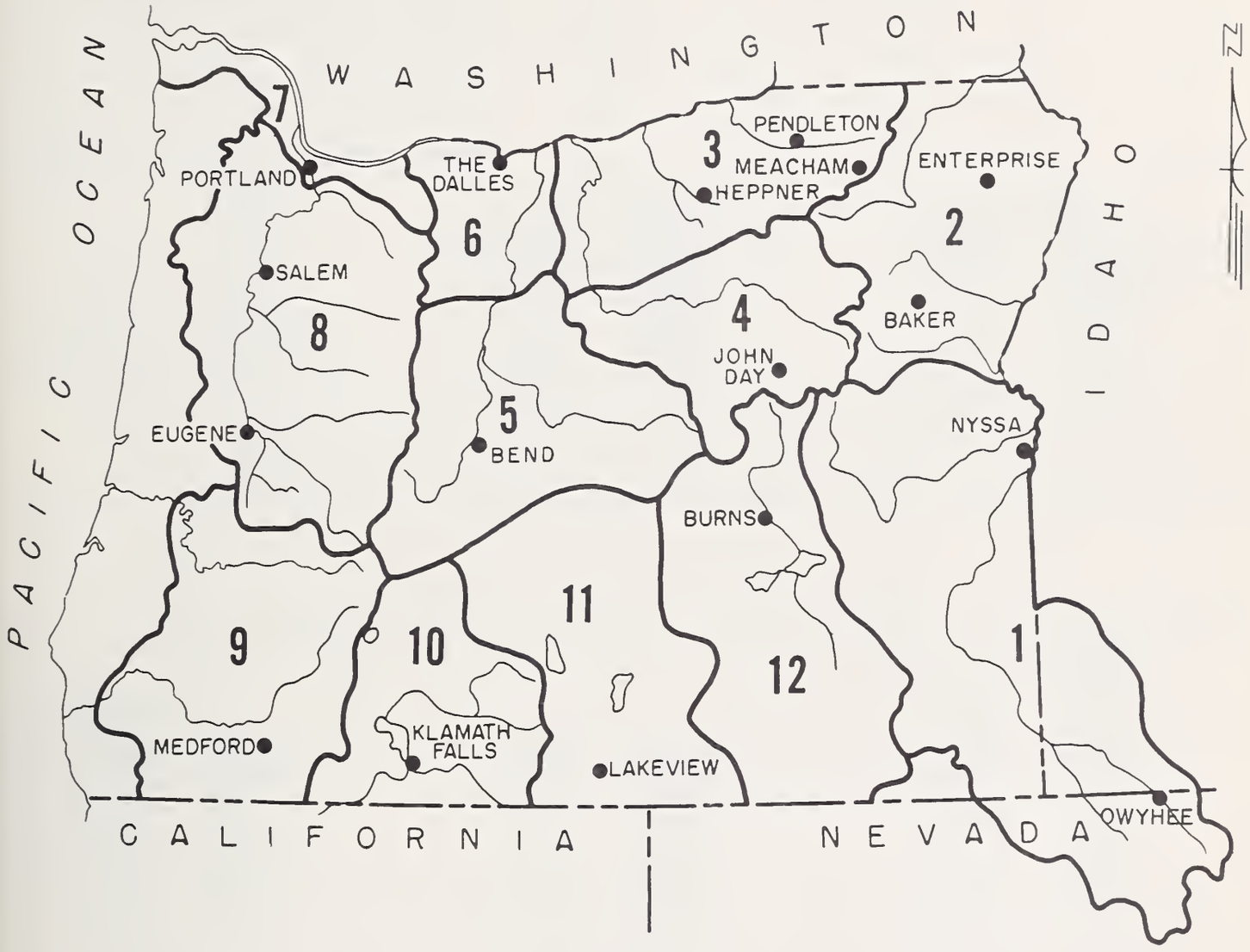
MOUNTAIN SOIL MOISTURE in OREGON
as percent of capacity
JANUARY 1, 1967

● Soil Moisture Station

**Moisture studies not yet developed in these areas.*

VALLEY PRECIPITATION in OREGON [a]

JANUARY 1, 1967

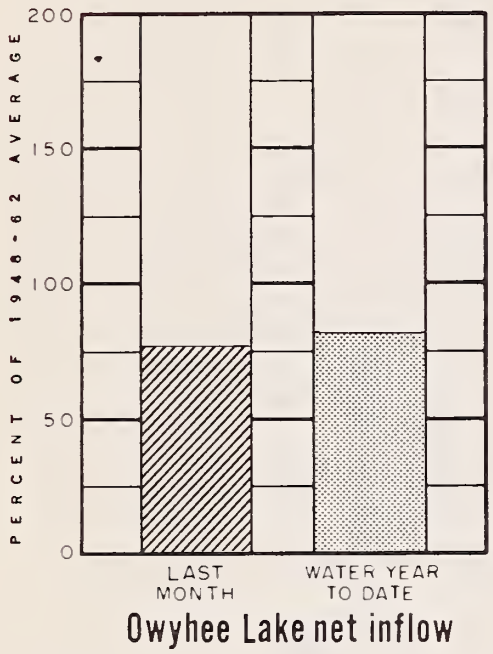


PRECIPITATION as PERCENT of the 1948-62 AVERAGE					
STATION	LAST MONTH	WATER YEAR TO DATE [b]	STATION	LAST MONTH	WATER YEAR TO DATE [b]
Baker Apt.	200	131	Lakeview	90	125
Bend	97	98	Meacham	175	143
Burns	125	122	Medford Apt.	84	119
Enterprise	156	98	Nyssa	106	114
Eugene Apt.	120	113	Pendleton Apt.	175	133
Heppner	138	144	Portland Apt.	121	104
John Day	97	114	Salem Apt.	42	55
Klamath Falls Apt.	99	106	The Dalles	143	121
			Owyhee (Nev.)	95	84

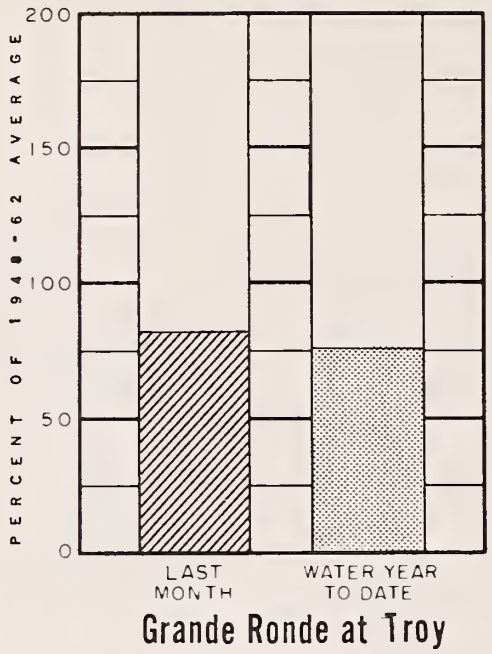
(a) Preliminary data furnished by the U.S. Weather Bureau. (b) Oct. 1 to date. (c) Report delayed.

CURRENT OREGON STREAMFLOW

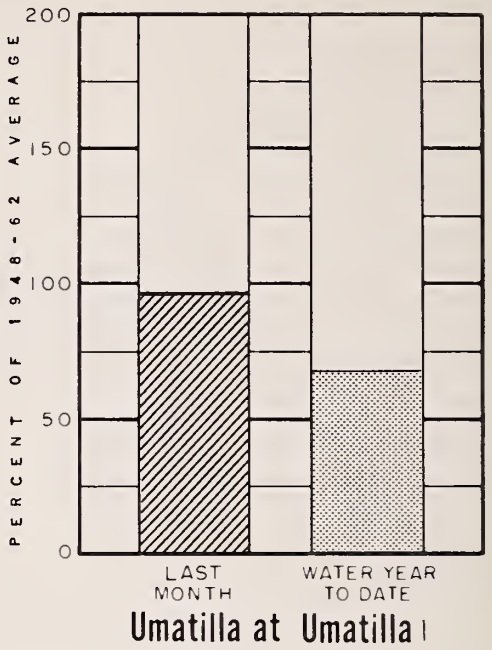
JANUARY 1, 1967



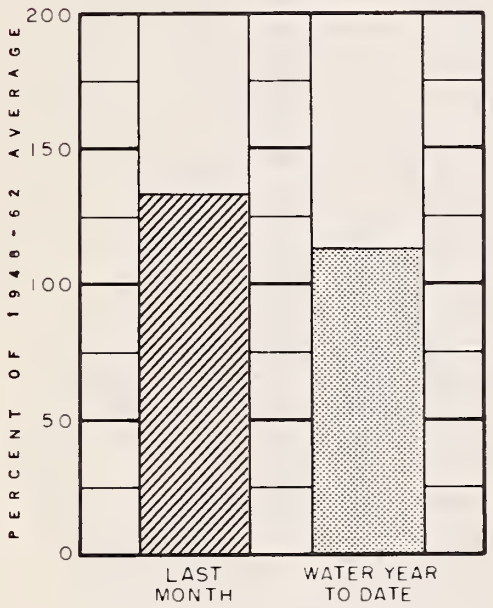
Owyhee Lake net inflow



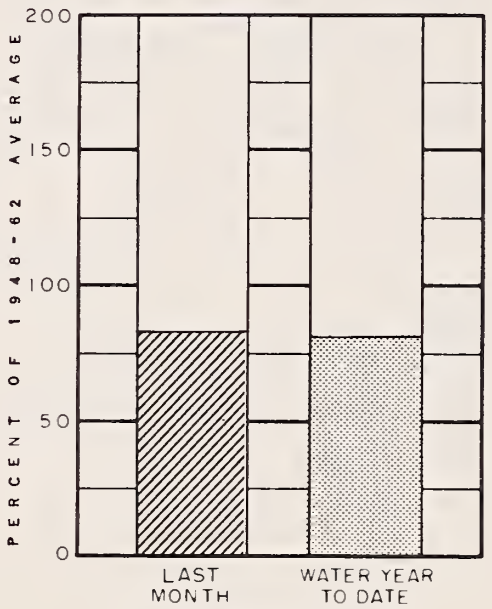
Grande Ronde at Troy



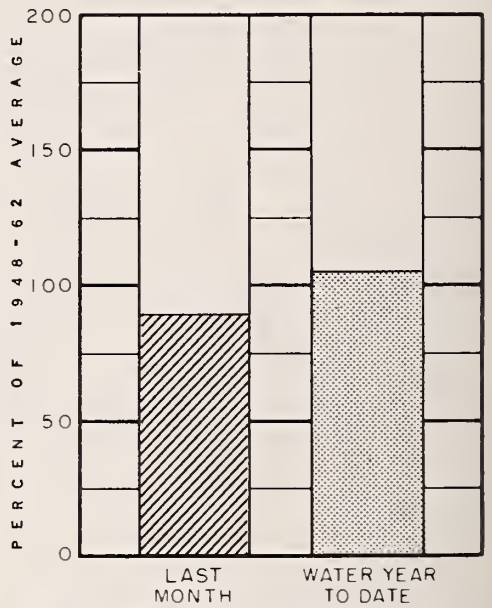
Umatilla at Umatilla



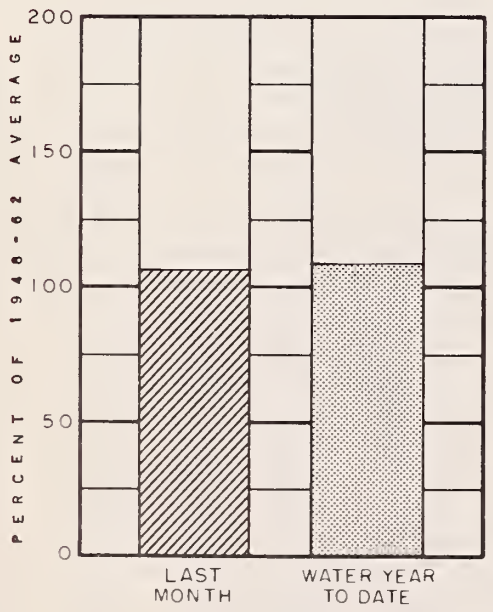
John Day at Service Creek



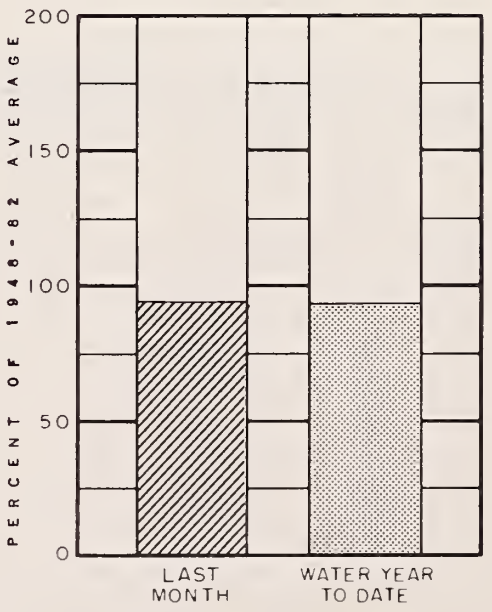
Deschutes at Moody



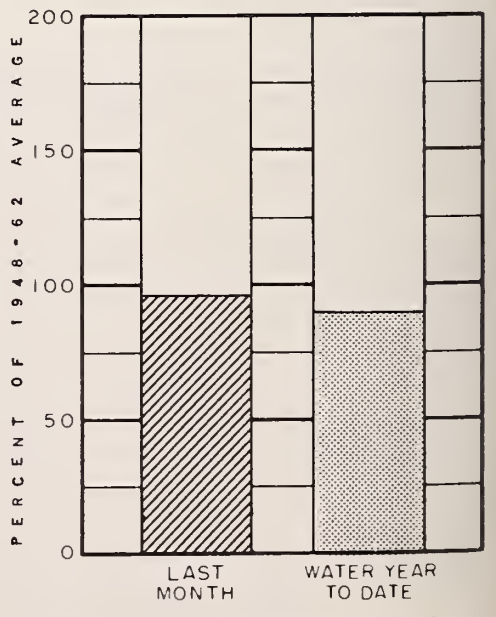
Mid. Fk. Willamette below No. Fk.



Umpqua near Elkton



Rogue at Raygold



Upper Klamath Lake net inflow

Data furnished by U.S. Geological Survey; The Pacific Power and Light Co.; and North and South Boards of Control Owyhee Project.

WATER SUPPLY OUTLOOK
OWYHEE, MALHEUR WATERSHEDS
OREGON

as of

JANUARY 1, 1967

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Malheur County farmers, ranchers and other water users, hoping for relief from the costly water shortage of 1966, will be encouraged by the current snow surveys which report snow-stored water close to average as of January first compared with amounts about one-half average a year ago. Reservoired water supplies, however, are mostly below the usual January levels except on Jordan Creek where they are extremely low. Above average streamflow will be needed in 1967 for average water supplies.

SNOW COVER

One-third of the total annual snowpack is normally accumulated on Malheur County mountains by January first and the snow surveys this year indicate the snow cover is equal to the 15 year average, 1948-62, on this early winter date.

SOIL MOISTURE

Watershed soils under the snowpack absorbed much of the late fall rains before freezing temperatures changed the rain to snow, but moisture now in the soils is only slightly better than one year ago. Soil moisture on Owyhee watersheds is 88 percent of capacity but only 67 percent on the Malheur area.

RESERVOIR STORAGE

Lake Owyhee held 293,100 acre feet on January first compared with the average storage for the 15 year period, 1948-62, of 316,500 acre feet. Warmsprings reservoir held 47,000 acre feet compared with the average of 44,700 acre feet. Agency Valley reservoir held 13,900 acre feet compared with the average of 17,300 a.f. Bully Creek held 3,100 acre feet compared with 17,000 a.f. the previous year. And Antelope reservoir on Jordan Creek now has only 200 acre feet compared with 7,600 acre feet one year ago.

Above average streamflow will be needed in the spring and summer of 1967 to offset the shortage of water in these reservoirs. This will be possible if snow accumulates at greater than average rates during the balance of the winter.

STREAMFLOW

Flow into Lake Owyhee* has totalled 42,200 acre feet or 84 percent of the 15-year average (1948-62) from October 1, 1966 to January 1, 1967. This indicates fall rains have not been sufficient to completely reprime the Owyhee watershed since the 1966 drought.

Total winter snow accumulation in Malheur County will need to exceed average accumulation by 15 to 25 percent to assure average water supply conditions in this region this year.

*Preliminary data furnished by North Board of Control, Nyssa, Oregon.

Report prepared by
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U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Boulder Creek Bully Creek Cow Creek Jordan Creek Jordan Valley Irrig. Dist. McDermitt Creek Oregon Canyon Creek Owyhee Project Succor Creek Tenmile Creek Vale-Oregon Irrig. Dist. Warmsprings Irrig. Dist. Willow Creek (Reservoired)	Forecasts begin in the February 1 report which will reach you about February 10, 1967.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1967

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Agency Valley	60.0	13.9	22.2	17.3
Antelope	55.0	0.2	7.6	- -
Bully Creek	30.0	3.1	17.0	- -
Owyhee	715.0	293.1	550.1	316.5
Warmsprings	191.0	47.0	139.9	44.7
Willow Creek #3	26.0	*b*	- -	- -

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1967

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
1780	Jordan Creek above Lone Tree Creek	*c*	April-July	98	
		c	April-Sept.	98	
2140	Malheur near Drewsey	*c*	Feb.-July	122	
		c	April-Sept.	82	
2175	Malheur, North Fork at Beulah[d]	*c*	Feb.-July	79	
		c	April-Sept.	65	
1825	Owyhee Reservoir net Inflow[k]	*c*	Feb.-July	533	
		c	April-Sept.	381	
	NOTE: FORECASTS BEGIN ON FEB. 1, 1967.				

SOIL MOISTURE

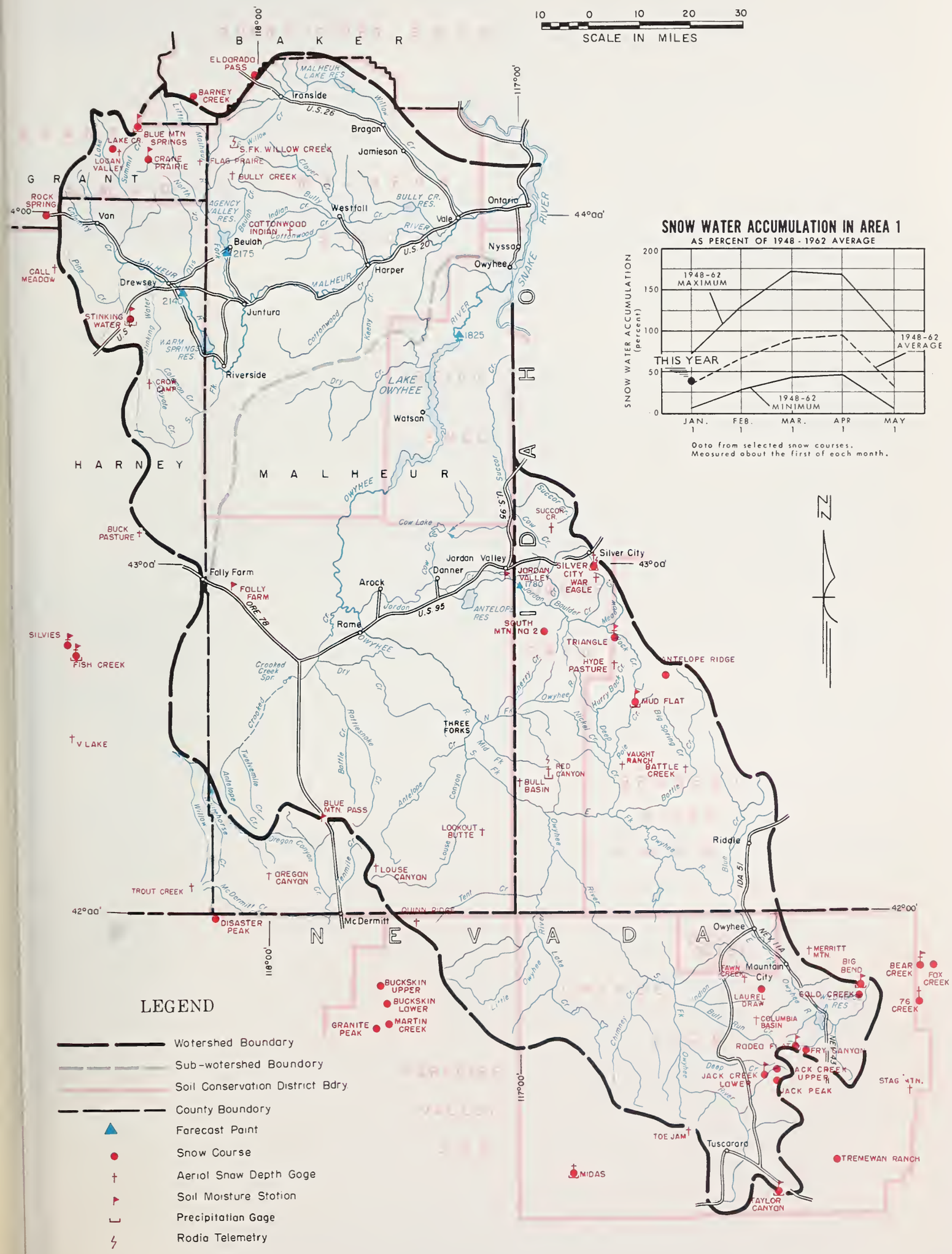
STATION NAME	ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) CAPACITY	SOIL MOISTURE (Inches) DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Bear Creek (Nev.)	7800	72	16.8	*c*			
Big Bend (Nev.)	6700	48	16.7	12-29-66	15.3	14.6	16.2
Blue Mountain Springs	5900	42	16.9	12-29-66	7.8	6.6	13.1
Crane Prairie	5375	48	18.2	12-29-66	15.8	14.6	16.0
Folly Farm	4450	30	12.5	*c*			
Jack Creek, Lower (Nev.)	6800	48	8.6	*c*			
Jordan Valley	4390	48	19.3	*b*			
Mud Flat (Ida.)	5500	48	12.8	*b*			
Rodeo Flat (Nev.)	6800	42	11.0	12-29-66	10.5	10.6	11.0
Stinking Water Summit	4800	48	21.9	*b*			
Taylor Canyon (Nev.)	6200	48	15.1	1-3-67	11.9	12.4	15.0
Triangle (Ida.)	5150	48	16.6	*b*			

SNOW

SNOW COURSE NAME	ELEVATION	CURRENT INFORMATION DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	PAST RECORD WATER CONTENT (Inches) LAST YEAR	1948-62 AVERAGE
Antelope Ridge (Ida.)	5900	*c*				
Barney Creek	5950	*c*				
Battle Creek (Ida.)	5700	*c*				
Bear Creek[e] (Nev.)	7800	Report	Delayed			
Big Bend (Nev.)	6700	12/29	17	2.7	1.7	3.5[h]
Blue Mountain Springs	5900	12/29	27	6.8	2.8	6.0[h]
Buck Pasture[e]	5700	*c*				
Buckskin, Lower (Nev.)	6700	*c*				
Buckskin, Upper (Nev.)	7200	*c*				
Bull Basin[e] (Ida.)	5600	*c*				
Bully Creek[e]	5300	*c*				
Call Meadow[e]	5340	*c*				
Columbia Basin[e] (Nev.)	6650	*c*				

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (l) Ground measurement. (m) Average for 5 or more years in base period.

OWYHEE, MALHEUR WATERSHEDS



SNOW WATER ACCUMULATION IN AREA 1

AS PERCENT OF 1948 - 1962 AVERAGE

Data from selected snow courses.
Measured about the first of each month.

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- Soil Moisture Station
- Precipitation Gage
- Radio Telemetry

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Cottonwood-Indian[e]	4320	[c]				
Crane Prairie	5375	[c]				
Crow Camp[e]	5500	[c]				
Disaster Peak (Nev.)	6500	[c]				
Eldorado Pass	4600	12/29	14	3.2	1.2	1.2[h]
Fawn Creek[e] (Nev.)	7000	[c]				
Fish Creek	7900	[c]				
Flag Prairie[e]	4750	[c]				
Fox Creek (Nev.)	6800	[c]				
Fry Canyon (Nev.)	6700	12/29	17	3.3	2.5	3.1[h]
Gold Creek (Nev.)	6600	12/29	13	2.2	0.2	2.2[h]
Granite Peak (Nev.)	7800	[c]				
Hyde Pasture[e] (Ida.)	5800	[c]				
Jack Creek, Lower (Nev.)	6800	[c]				
Jack Creek, Upper (Nev.)	7250	[c]				
Jack Peak (Nev.)	8420	[c]				
Lake Creek	5120	12/29	19	4.4	2.1	- -
Laurel Draw (Nev.)	6700	[c]				
Logan Valley	5100	12/28	14	3.7	- -	- -
Lookout Butte[e]	5650	[c]				
Louse Canyon[e]	6440	[c]				
Martin Creek (Nev.)	6700	[c]				
Merritt Mountain[e] (Nev.)	7000	[c]				
Midas (Nev.)	7200	[c]				
Mud Flat (Ida.)	5500	[c]				
Oregon Canyon[e]	6950	[c]				
Quinn Ridge[e] (Nev.)	6300	[c]				
Red Canyon (Ida.)	6500	[c]				
Rock Spring	5100	12/28	13	2.1	0.9	2.1
Rodeo Flat (Nev.)	6800	12/29	12	2.4	2.4	3.4[h]
76 Creek (Nev.)	7100	[c]				
Silver City[e] (Ida.)	6400	12/29	21	5.0	3.1	6.5[m]
Silvies	6900	[c]				
South Mountain #2 (Ida.)	6340	12/30	16	3.6	0.5	4.5[h]
Stag Mountain[e] (Nev.)	7800	[c]				
Stinking Water	4800	12/29	9	2.0	1.3	2.0[h]
Succor Creek[e] (Ida.)	6100	[c]				
Taylor Canyon (Nev.)	6200	12/28	17	3.1	2.3	1.8[h]
Toe Jam[e] (Nev.)	7700	[c]				
Tremewan Ranch (Nev.)	5700	12/28	8	1.0	1.9	0.4[h]
Triangle[e] (Ida.)	5150	[c]				
Trout Creek[e]	7800	[c]				
"V" Lake[e]	6600	[c]				
Vaught Ranch[e] (Ida.)	5950	[c]				
War Eagle[e] (Ida.)	7700	[c]				

WATER SUPPLY OUTLOOK
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS
OREGON

as of

JANUARY 1, 1967

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Farmers, ranchers and other water users in Baker, Union and Wallowa Counties, hoping for relief from the costly water shortage of 1966, will be encouraged by the current snow surveys which report snow-stored water is now nearly double the amount reported one year ago on this date but still only 80 percent of the usual January first figures. Reservoired water supplies are about average on Burnt River but much below average in Wallowa Lake.

SNOW COVER

A little more than one-third of the total annual snowpack is normally accumulated on the Northeastern Oregon watersheds by January first and the snow surveys this year indicate the snow cover is about 80 percent average on this early winter date. Snow accumulation would have been greater if temperatures had not been 4 to 5 degrees warmer than average in December, causing rainfall rather than snow.

SOIL MOISTURE

Moisture in the top four feet of the soil mantle under the snowpack is 73 percent of capacity compared with 62 percent on this date one year ago.

RESERVOIR STORAGE

Unity reservoir on Burnt River held 6,600 acre feet on January first compared with 8,900 a.f. a year ago and the 15 year average (1948-62) of 5,200 acre feet.

Wallowa Lake held only 7,500 acre feet at the beginning of the year compared with 31,100 acre feet last year and the average figure of 17,200 acre feet.

STREAMFLOW

Flow of the Grande Ronde River* at Troy, Oregon has totalled 196,700 acre feet or 76 percent of the 15-year average (1948-62) from October 1, 1966 to January 1, 1967. These figures indicate that this corner of the state has not yet recovered from the many months of below average precipitation.

Total winter snow accumulation in Northeastern Oregon will need to exceed average accumulation by 20 to 25 percent to assure average water supply conditions in this region this year.

*Provisional data furnished by U. S. Geological Survey, Portland, Oregon

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Alder Slope Baker Valley Big Creek Clover Cr. (nr. N. Powder) Cove Durkee Eagle Valley Elgin Enterprise-Joseph Hereford-Bridgeport Imnaha River La Grande-Island City Lostine-Wallowa No. Powder River-Wolf Cr. Pine Valley Powder River-Elk Creek Summerville Sumpter Valley Union-Hot Lake Unity	Forecasts begin in the February 1 report which will reach you about February 10, 1967.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1967

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Thief Valley	17.4	*b*	- -	- -
Unity	25.2	6.6	8.9	5.2
Wallowa Lake	37.5	7.5	31.1	17.2

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1967

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
3305	Bear near Wallowa	*c*	April-Sept.	72	
2730	Burnt near Hereford[d]	*c*	Feb.-June	53	
		c	April-Sept.	41	
3200	Catherine near Union	*c*	April-Sept.	73	
3190	Grande Ronde at La Grande	*c*	March-Sept.	246	
		c	April-Sept.	203	
3295	Hurricane near Joseph	*c*	April-Sept.	48	
2920	Imnaha at Imnaha	*c*	April-Sept.	318	
3300	Lostine near Lostine	*c*	April-Sept.	131	
2755	Powder near Baker	*c*	April-July	66	
		c	April-Sept.	67	
3250	Wallowa, East Fork near Joseph[d]	*c*	Feb.-Sept.	13.4	
	NOTE: FORECASTS BEGIN ON FEB. 1, 1967.	*c*	April-Sept.	12.0	

SOIL MOISTURE

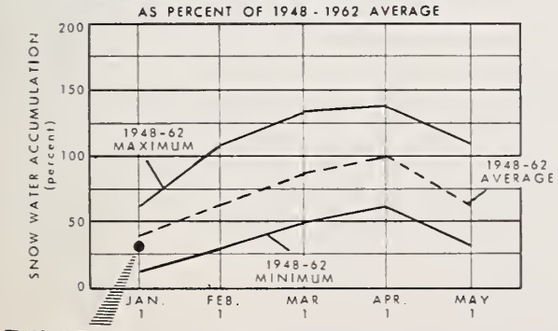
STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) CAPACITY	SOIL MOISTURE (Inches) DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Summit	5100	36	16.8	12-29-66	9.9	8.5	11.6
Emigrant Springs	3925	48	22.3	12-22-66	17.1	13.1	18.5
Tollgate #1	5070	48	23.6	12-28-66	18.6	17.2	19.3

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS

SNOW WATER ACCUMULATION IN AREA 2

AS PERCENT OF 1948 - 1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month.

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station
- Aerial Snow Depth Gage
- Precipitation Gage

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Aneroid Lake #1	7480	[c]				
Aneroid Lake #2	7300	[c]				
Anthony Lake	7125	12/30	42	13.9	3.5	11.9
Anthony Ski Hill		No Report				
Bald Mountain[e] (Ore.)	6700	No Report				
Barney Creek	5950	[c]				
Beaver Reservoir	5340	12/26	19	4.3	1.4	4.8[h]
Big Sheep[e]	6200	[c]				
Blue Mountain Summit	5098	12/29	16	3.2	2.1	3.5
Bourne	5800	[c]				
County Line	4800	12/30	9	1.1	1.2	2.9[h]
Dooley Mountain	5430	12/27	20	4.7	1.8	3.5[h]
Eilertson Meadows	5400	12/29	22	5.7	2.3	5.0[h]
Eldorado Pass	4600	12/29	14	3.2	1.2	1.2[h]
Gold Center	5340	[c]				
Goodrich Lake	6775	[c]				
Intake House	4930	12/28	22	5.0	2.8	- -
Little Alps	6200	12/30	24	5.8	2.0	- -
Little Antone	5000	12/30	15	3.3	2.0	- -
Lucky Strike	5050	[c]				
Meacham	4300	12/22	5	0.8	1.9	3.3[h]
Mirror Lake[e]	8200	[c]				
Moss Springs	5850	No Report				
Power Plant	3990	12/28	11	1.8	2.0	- -
Schneider Meadows	5400	[c]				
Schoolmarm	4775	12/30	10	1.0	0.9	2.6[h]
Standley	7400	[c]				
Taylor Green	5740	[c]				
Tipton	5100	12/29	18	3.8	2.5	4.9[h]
Tollgate	5070	12/28	23	7.2	3.7	9.6[h]
TV Ridge	7000	[c]				

"The Conservation of Water begins with the Snow Survey"

Area 3

WATER SUPPLY OUTLOOK
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS
OREGON

as of
JANUARY 1, 1967

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Farmers, ranchers and other water users in Umatilla, Morrow and Gilliam Counties, hoping for relief from the costly water shortages of 1966, will find little encouragement in the current snow surveys which report snow-stored water is now only 55 percent of the January first average compared with amounts about 45 percent of the 15-year average (1948-62) one year ago. Reservoired water supplies are encouraging for areas served from Cold Springs reservoir but very discouraging for users from McKay reservoir.

SNOW COVER

About one-third of the total annual snowpack is normally accumulated on the watersheds of this region by January first, but the current snow surveys now indicate only about half the usual amount is now accumulated. The U. S. Weather Bureau reports December precipitation was about 175 percent average but it came more as rain rather than snow because temperatures averaged 4 or 5 degrees above normal.

SOIL MOISTURE

Moisture in the top four feet of the soil mantle under the snowpack has increased rapidly due to excess rainfall and unusually warm temperatures and has reached 76 percent of capacity compared with 68 percent a year ago on this date.

RESERVOIR STORAGE

Stored water in Cold Springs reservoir was 24,200 acre feet on January first compared with 15,200 last year on this date and the average figure of 20,900 acre feet.

McKay reservoir contained only 11,300 acre feet on January first compared with 24,500 a. f. a year ago and the average of 19,900 acre feet for this date. This is a seriously short supply.

STREAMFLOW

Flow of the Umatilla River near Umatilla* has totalled only 39,800 acre feet or 69 percent of the 15 year average (1948-62) from October 1, 1966 to January 1, 1967. These figures indicate the upper watersheds have not been sufficiently recharged since the 1966 drought.

Total winter snow accumulation in the Columbia inland areas will need to exceed average accumulation this winter by 45 to 50 percent to assure average water supplies in this region in 1967.

*Provisional data furnished by U. S. Geological Survey, Portland, Oregon.

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Birch Creek Butter Creek Couse Creek Dry Creek Dugger Creek Johnson Creek McKay Creek Mill Creek Mud Creek Pine Creek Rhea Creek Rock Creek Umatilla R. (Cold Springs Reservoir) Umatilla River, Main Umatilla River (McKay Res.) Walla Walla River, Little Walla Walla River, Main Walla Walla River, No. Fk. Walla Walla River, So. Fk. Willow Creek	Forecasts begin in the February 1 report which will reach you about February 10, 1967.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1967

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cold Springs	50.0	24.2	15.2	20.9
McKay	73.8	11.3	24.5	19.9

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1967

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
0320	Butter Creek near Pine City	*c*	March-July	14.5	
0225	McKay near Pilot Rock	*c*	Feb.-July	62	
		c	April-Sept.	32	
0200	Umatilla near Gibbon	*c*	March-Sept.	116	
		c	April-Sept.	93	
0210	Umatilla at Pendleton	*c*	March-Sept.	247	
		c	April-Sept.	183	
0100	Walla Walla, South Fork near Milton	*c*	March-Sept.	89	
		c	April-Sept.	76	
	NOTE: FORECASTS BEGIN ON FEB. 1, 1967.				

SOIL MOISTURE

STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) CAPACITY	SOIL MOISTURE (Inches) DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Athena-Weston	1700	48	18.7	12-28-66	10.9	12.0	14.4
Battle Mountain Summit	4340	48	13.8	12-23-66	12.7	10.9	12.1
Emigrant Springs	3925	48	22.3	12-22-66	17.1	13.1	18.5
Tollgate #1	5070	48	23.6	12-28-66	18.6	17.2	19.3

SNOW

SNOW COURSE NAME	SNOW COURSE ELEVATION	CURRENT INFORMATION DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	PAST RECORD WATER CONTENT (Inches) LAST YEAR	1948-62 AVERAGE
Arbuckle Mountain	5400	*c*				
Battle Mountain Summit	4340	12/23	1	0.3	0.8	- -
Blue Mountain Camp	4300	12/28	10	2.0	2.0	- -
Emigrant Springs	3925	12/22	2	0.3	1.3	2.3[h]
Lucky Strike	5050	*c*				
Meacham	4300	12/22	5	0.8	1.9	3.3[h]
Tollgate	5070	12/28	23	7.2	3.7	9.6[h]
Walla Walla Diversion	2400	12/31	0	0.0	0.0	0.0
Weston Mountain	2700	12/28	2	0.2	0.0	- -

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records.

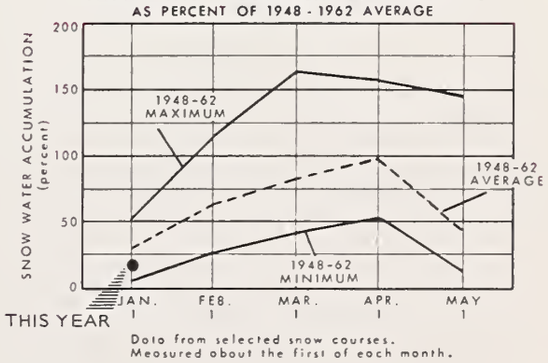
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Maisture Station
- Precipitatian Gage

SNOW WATER ACCUMULATION IN AREA 3

AS PERCENT OF 1948 - 1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month.

Umatilla, Walla Walla, Willow, Rock, Lower John Day Watersheds

"The Conservation of Water begins with the Snow Survey"

Area 4

WATER SUPPLY OUTLOOK
UPPER JOHN DAY WATERSHEDS
OREGON

as of
JANUARY 1, 1967

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Farmers, ranchers and other water users in the John Day watersheds of Grant and Wheeler Counties, hoping for relief from the costly water shortage of 1966, will be encouraged by the current snow surveys which report snow-stored water close to average as of January first compared with amounts about one-half the average a year ago. Soil moisture under the snow is much improved over last year's dry conditions.

SNOW COVER

A little more than one-third of the total annual snowpack is normally accumulated on the Upper John Day watersheds by January first and the snow surveys this year indicate the snow cover is about 96 percent average on this early winter date.

SOIL MOISTURE

The top four feet of the soil mantle now contain moisture equaling 72 percent of capacity compared with only 61 percent one year ago. This additional soil moisture will favor runoff when snow-melt begins next spring. However, the soils are not up to the 84 percent of capacity they reached at this date in 1965.

STREAMFLOW

Flow of the John Day River* at Service Creek has totalled 146,500 acre feet or 114 percent of the 15-year (1948-62) average from October 1, 1966 to January 1, 1967.

Total winter snow accumulation in the John Day basin will need to exceed average accumulation by about 20 percent to assure average water supply conditions in the John Day basin in 1967.

*Provisional data furnished by U. S. Geological Survey, Portland, Oregon.

Report prepared by
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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Beech Creek Beech Creek-Fox-Long Cr. Bridge-Mountain Creeks Camas Creek Cherry Creek Indian-Pine Creeks John Day River, Main Fork John Day River, Mid. Fork John Day River, N. Fork John Day River, S. Fork Monument-Kimberly Strawberry Creek	Forecasts begin in the February 1 report which will reach you about February 10, 1967.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1967

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1967

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
0385	John Day at Prairie City	c	March-July	56	
		c	April-Sept.	51	
0440	John Day, Middle Fork at Ritter	c	March-July	153	
		c	April-Sept.	131	
0375	Strawberry near Prairie City	c	March-July	8.2	
	NOTE: FORECASTS BEGIN ON FEB. 1, 1967.	c	April-Sept.	8.8	

SOIL MOISTURE

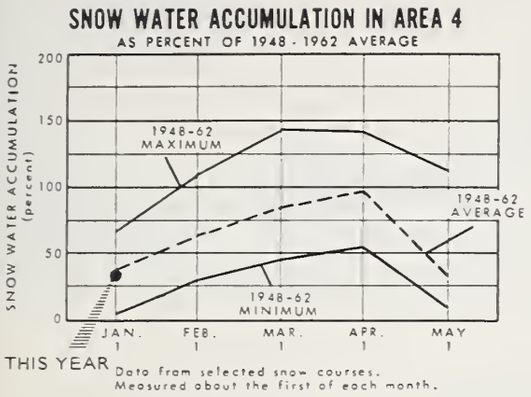
STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) CAPACITY	SOIL MOISTURE (Inches) DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Battle Mountain Summit	4340	48	13.8	12-23-66	12.7	10.9	12.1
Blue Mountain Springs	5900	42	16.9	12-29-66	7.8	6.6	13.1
Blue Mountain Summit	5100	36	16.8	12-29-66	9.9	8.5	11.6
Derr	5670	24	9.0	c			
Marks Creek	4540	36	14.1	12-23-66	11.4	9.5	13.7
Snow Mountain	6300	48	16.7	b			
Starr Ridge	5150	36	10.6	12-28-66	10.0	7.5	10.3

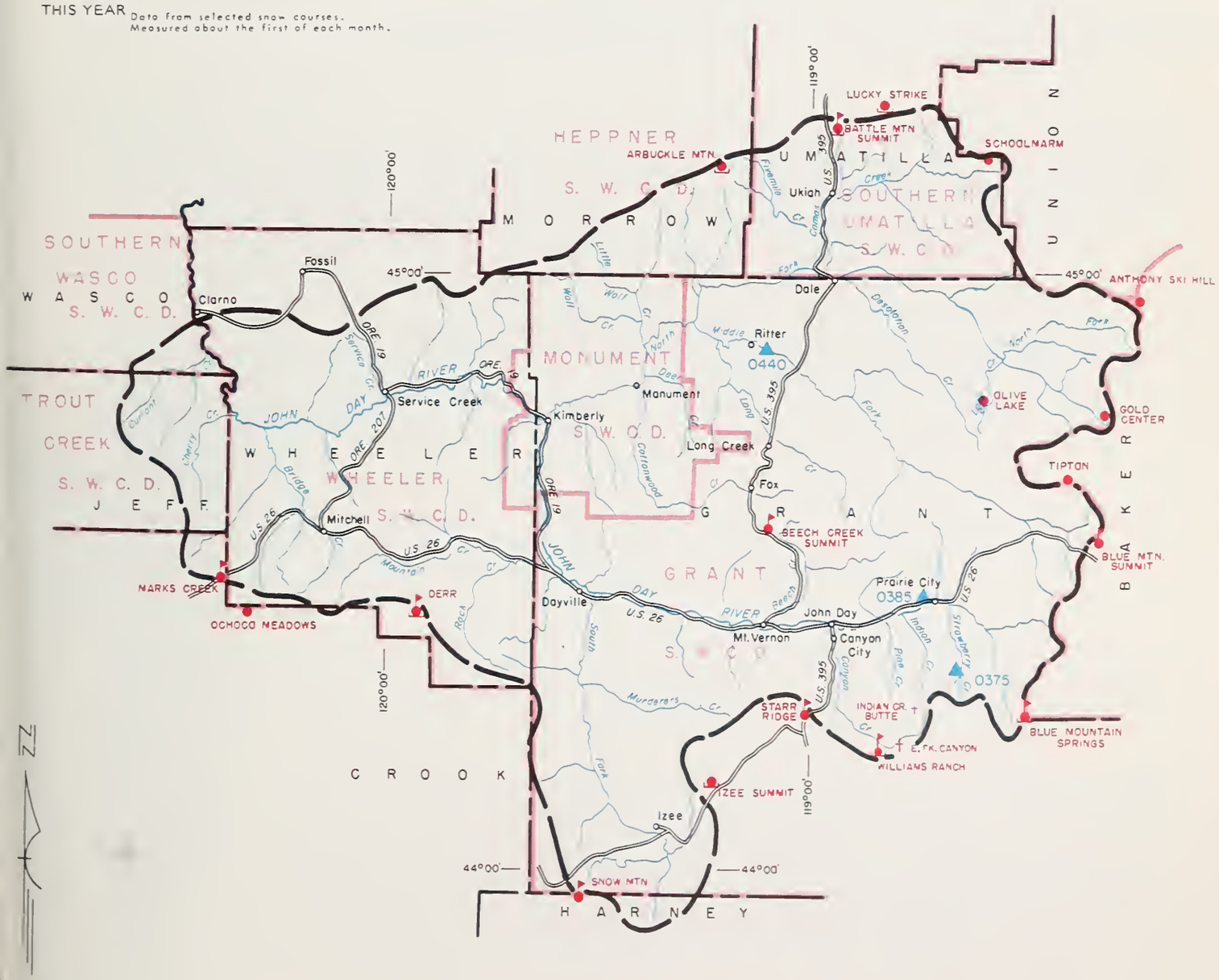
SNOW

SNOW COURSE NAME	SNOW COURSE ELEVATION	CURRENT INFORMATION DATE OF SURVEY	CURRENT INFORMATION SNOW DEPTH (Inches)	CURRENT INFORMATION WATER CONTENT (Inches)	PAST RECORD WATER CONTENT (Inches) LAST YEAR	PAST RECORD WATER CONTENT (Inches) 1948-62 AVERAGE
Anthony Lake	7125	12/30	42	13.9	3.5	11.9
Arbuckle Mountain	5400	c				
Battle Mountain Summit	4340	12/28	1	0.3	0.8	- -
Beech Creek Summit	4800	12/29	8	1.4	1.0	2.0[h]
Blue Mountain Springs	5900	12/29	27	6.8	2.8	6.0[h]
Blue Mountain Summit	5098	12/29	16	3.2	2.1	3.5
Derr	5670	c				
East Fork Canyon[e]	5700	c				
Gold Center	5340	c				
Indian Creek Butte[e]	6550	c				
Izee Summit	5293	12/29	16	3.8	1.8	3.1[h]
Lucky Strike	5050	c				
Marks Creek	4540	12/23	2	0.3	1.0	1.4[m]
Ochoco Meadows	5200	c				
Olive Lake	6000	12/28	29	7.4	4.0	8.3[h]
Schoolmarm	4775	12/30	10	1.0	0.9	2.6[h]
Snow Mountain	6300	c				
Starr Ridge	5150	12/29	12	2.5	1.2	2.4[h]
Tipton	5100	12/29	18	3.8	2.5	4.9[h]
Williams Ranch	4500	c				

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

UPPER JOHN DAY WATERSHEDS





LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station
- Aerial Snow Depth Gage
- Precipitation Gage

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UPPER DESCHUTES, CROOKED WATERSHEDS
OREGON

as of

JANUARY 1, 1967

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Farmers, ranchers and other water users in the mid-state area of Crook, Deschutes and Jefferson Counties, hoping the effects of the 1966 drought will be erased this winter, will be slightly encouraged by the current snow surveys which report snow-stored water similar to last year at 76 percent of the January 1 average but soil moisture greatly increased over last year.

SNOW COVER

About one-third of the total annual snowpack is normally accumulated on the Central Cascades and Crooked River watersheds of this mid-state region by January first and the snow surveys this year indicate the snow cover is about 76 percent of the 15 year average (1948-62). Above 5000 feet the snow is probably above last year's water content on January first.

SOIL MOISTURE

Moisture in the top four feet of the soil mantle under the snowpack is already up to 81 percent of capacity--a great increase over the 68 percent measured a year ago. This moisture will favor snow-melt runoff next spring.

RESERVOIR STORAGE

Stored water in Crooked River reservoirs is near average for January first. Prineville reservoir contains 92,100 acre feet, an amount similar to the storage one year ago. Ochoco reservoir contains 12,600 acre feet compared with 22,600 acre feet one year ago and 17.500 acre feet which is the average storage on January first.

Reservoirs on Deschutes River watersheds are reported to be holding amounts somewhat less than last year and below the 15 year average (1948-62). Crane Prairie contained 30,000 acre feet on January first compared with 45,300 acre feet last year and the average of 37,100 acre feet. Wickiup now holds 106,200 acre feet compared with 182,800 a. f. last year and the average of 135,500 acre feet. Crescent Lake reservoir on the Little Deschutes River contained 50,000 acre feet compared with 65,000 a. f. last year and the average of 46,900 acre feet.

STREAMFLOW

Flow of the Deschutes River at Moody* (corrected for upstream storage) has totalled 927,500 acre feet or 83 percent of the 15 year average (1948-62) from October 1, 1966 to January 1, 1967. These figures and other data indicate that ground-water contributions to streamflow in the Deschutes basin will be down about 15 percent from average.

continued on next page

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Total winter snow accumulation in the Crooked-Deschutes area will need to exceed average accumulation by about 25 to 35 percent to assure average water supply conditions in this area in 1967.

* Provisional data furnished by U. S. Geological Survey, Portland, Oregon.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Arnold Irrigation District Bear Creek Beaver Creek Camp Creek Central Ore. Irrig. Dist. Crooked River Deschutes River Hay-Trout Creeks Lone Pine Irrig. Dist. Mill Creek North Unit Irrig. Dist. Ochoco Creek Sisters Irrigation Dist. Snow Creek Irrigation Dist. Squaw Creek Irrig. Dist. Swalley Ditch Tumalo Project Walker Basin Irrig. Dist.	Forecasts begin in the February 1 report which will reach you about February 10, 1967.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1967

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Crane Prairie	55.3	30.1	45.3	37.1
Crescent Lake	117.2*	50.0	65.0	46.9
Ochoco	47.5	12.6	22.6	17.5
Prineville	153.0	92.1	92.6	- -
Wickiup	200.0	106.3	182.8	135.5

*Includes space for 25,790 a.f. for flood storage only.

Note: Current storage figures for Crescent Lake includes 5360 acre feet of known dead and inactive storage.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1967

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
0535	Crane Prairie Reservoir total Inflow	c	April-Sept.	143	
0600	Crescent at Crescent Lake[d]	c	March-July	30	
		c	April-Sept.	33	
0795	Crooked near Post	c	Feb.-July	201	
		c	April-Sept.	125	
0645	Deschutes at Benham Falls[d]	c	April-July	417	
		c	April-Sept.	631	
0500	Deschutes below Snow Creek	c	Feb.-Sept.	89	
		c	April-Sept.	75	
0630	Deschutes, Little near Lapine[d]	c	Feb.-July	130	
		c	April-Sept.	113	
0848	Ochoco Reservoir net Inflow	c	Feb.-June	50	
		c	April-Sept.	32	
0555	Odell near Crescent	c	April-Sept.	34	
0750	Squaw near Sisters	c	April-Sept.	56	
0730	Tumalo near Bend[d]	c	April-Sept.	54	

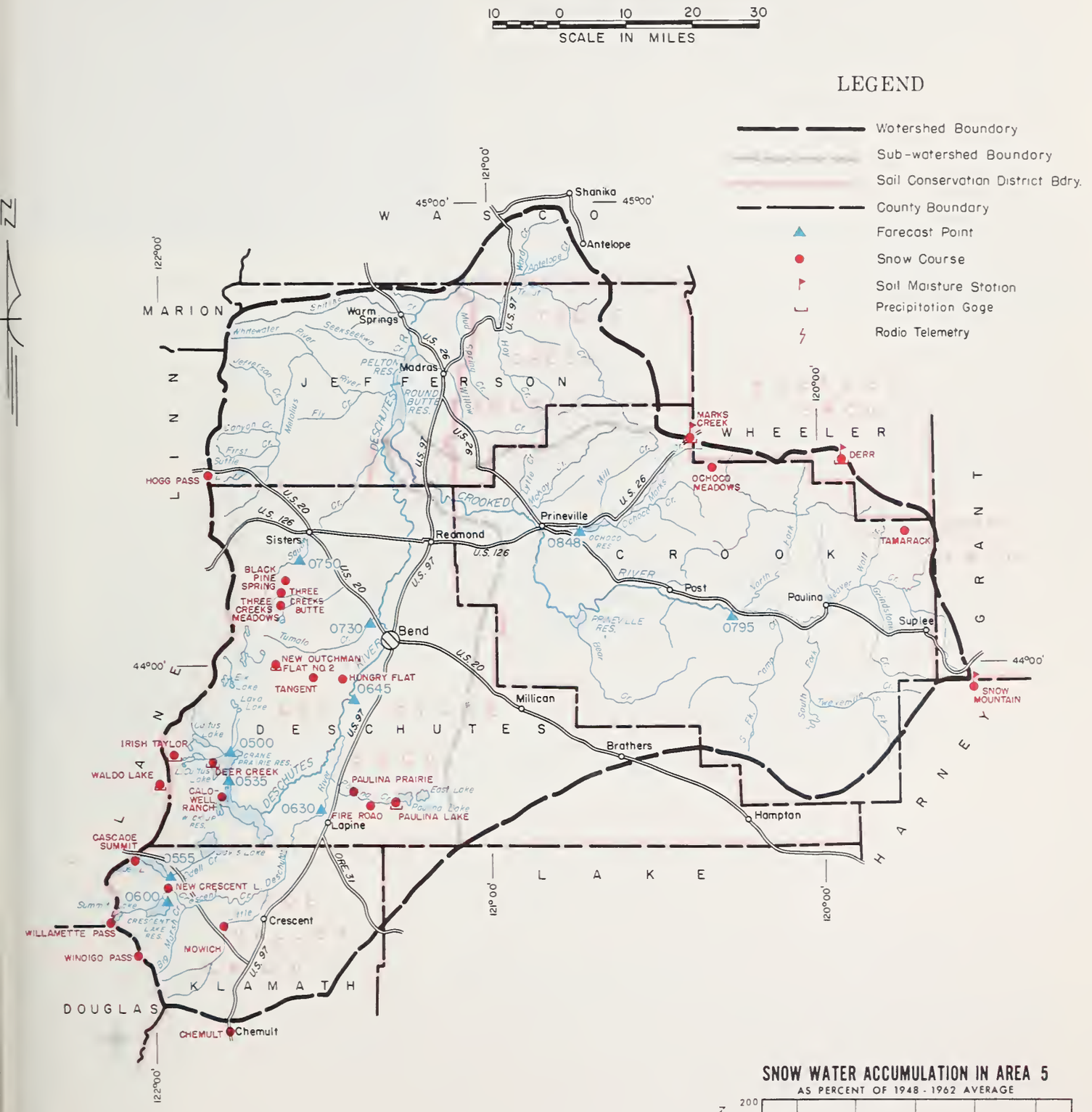
NOTE: FORECASTS BEGIN ON FEB. 1, 1967.

SOIL MOISTURE

STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) CAPACITY	SOIL MOISTURE (Inches) DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Derr	5670	24	9.0	c			
Marks Creek	4540	36	14.1	12-23-66	11.4	9.5	13.7
Snow Mountain	6300	48	16.7	b			

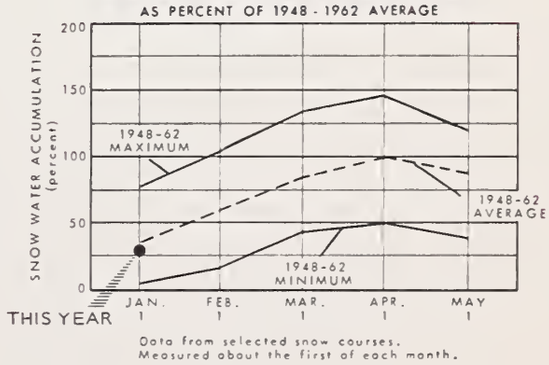
(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

UPPER DESCHUTES, CROOKED WATERSHEDS



SNOW WATER ACCUMULATION IN AREA 5

AS PERCENT OF 1948 - 1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month.

Upper Deschutes, Crooked Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Black Pine Spring	4600	*c*				
Caldwell Ranch	4400	*c*				
Cascade Summit	4880	12/30	32	9.8	7.8	13.2 *h*
Chemult	4760	12/30	13	3.9	5.2	4.8
Deer Creek	4554	*c*				
Derr	5670	*c*				
Fire Road	5050	*c*				
Hogg Pass	4755	12/30	42	12.5	14.1	16.6
Hungry Flat	4400	1/3	8	2.0	3.3	- -
Irish Taylor	5500	*c*				
Marks Creek	4540	12/23	2	0.3	1.0	1.4 *m*
Mowich	4700	*c*				
New Crescent Lake	4800	*c*				
New Dutchman Flat #2	6400	1/3	64	22.6	14.3	- -
Ochoco Meadows	5200	*c*				
Paulina Lake	6330	*c*				
Paulina Prairie	4285	*c*				
Snow Mountain	6300	*c*				
Tamarack	4800	*c*				
Tangent	5400	1/3	31	9.0	8.0	- -
Three Creeks Butte	5200	*c*				
Three Creeks Meadows	5650	*c*				
Waldo Lake	5500	*c*				
Willamette Pass	5600	*c*				
Windigo Pass	5800	*c*				

WATER SUPPLY OUTLOOK
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS
OREGON

as of

JANUARY 1, 1967

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Farmers, orchardists and other water users in the Hood River-Wasco County area, hoping the effects of the 1966 drought will be erased this winter, will be only slightly encouraged by the current snow surveys which report snow-stored water is about 78 percent of the 15-year average (1948-62) compared with 53 percent of the average on January first last year.

SNOW COVER

Warmer than average temperatures in December brought snow accumulation below about 3500 feet elevation in amounts less than were measured a year ago. Above 3500 feet the snow accumulation exceeded that of last January first.

SOIL MOISTURE

Accumulation of moisture in the top four feet of soil mantle under the snowpack is slightly below average with above average temperatures in December permitting rainfall to penetrate soils which would usually have received snowfall instead.

STREAMFLOW

Flows of Hood River and White River have nearly equaled average amounts in December despite very heavy flows about mid-month.

Total winter snow accumulation in the Hood-Wasco area will need to exceed average accumulation by about 15 to 20 percent to assure average water supply conditions in this area in 1967.

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Aldridge Ditch (Tony Creek) Badger Creek Dee Irrigation District East Fork Irrig. Dist. Farmers Irrigation Dist. Hood River Irrig. Dist. Juniper Flat Middle Fork Irrig. Dist. Mile Creeks Mill Creek Mount Hood Irrig. Dist. Rock-Gate-Threemile Crs. Tygh Creek White River	Forecasts begin in the February 1 report which will reach you about February 10, 1967.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1967

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Clear Lake	11.9	1.3	0.0	- -

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1967

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
1210	Hood River near Hood River[d]	*c*	April-July	322	
		c	April-Sept.	381	
1185	Hood, West Fork near Dee	*c*	April-July	155	
		c	April-Sept.	179	
1015	White below Tygh Valley	*c*	April-July	158	
		c	April-Sept.	176	

NOTE: FORECASTS BEGIN ON FEB. 1, 1967.

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1948-62 AVERAGE
Brooks Meadows	4300	*c*				
Clear Lake	3500	1/3	8	2.8	3.0	3.4[h]
Clear Lake (Experimental)	3500	1/3	16	5.2	4.9	- -
Cooper Spur	3490	1/3	16	4.2	10.4	- -
Greenpoint Reservoir	3400	*c*				
Knebal Springs	3850	*c*				
Lambert Point	7000	*c*				
Parkdale	1770	1/3	0	0.0	5.4	- -
Phlox Point	5400	1/3	63	21.9	14.0	27.2
Red Hill	4400	*c*				
Still Creek	3670	1/3	20	7.2	5.1	10.8
Switchback	3255	*c*				
Tilly Jane	6000	*c*				
Ulrich Ranch Junction	3350	*c*				
Umbrella Falls	5400	1/4	75	23.7	9.0	- -
Upper Valley	2530	1/3	T	T	8.0	- -

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

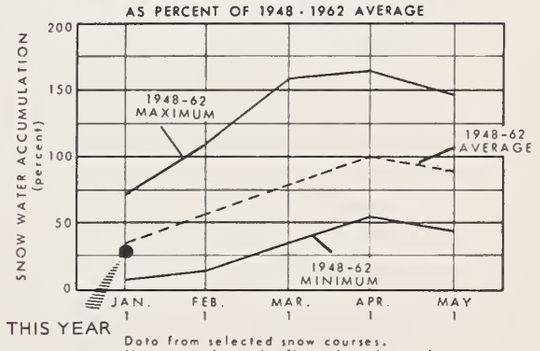
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- Soil Moisture Station
- Precipitation Gage
- Temperature Gage
- Radio Telemetry

SNOW WATER ACCUMULATION IN AREA 6

AS PERCENT OF 1948 - 1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month.

"The Conservation of Water begins with the Snow Survey"

Area 7

WATER SUPPLY OUTLOOK
LOWER COLUMBIA WATERSHEDS
OREGON

as of

JANUARY 1, 1967

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Irrigation water demand was high during the 1966 season. With below average streamflow, reservoir storage was depleted to meet these demands. Storage for irrigation is generally less than average and much less than the favorable carryover storage that existed a year ago. At this early season date, streamflow prospects during the snowmelt season of 1967 are below average in all areas of the Columbia Basin. Snowpack is the least in respect to average on the heavy irrigation use streams. These include the Snake River and tributaries in Idaho and the Yakima in Washington.

SNOW COVER

Early season snowpack ranges from 70 to 80 percent of average for the principal water resource areas of the basin. Near average snowpack exists along the Continental Divide in western Montana. Snow at low mountain elevations was especially deficient on January 1 due in part to above average temperatures during December storms.

SOIL MOISTURE

Soil moisture has improved both at mountain and valley elevations after a drought period ending in late November. Soil moisture is considered to be about average for this date.

STREAMFLOW

The flow of the Columbia at The Dalles, Oregon* has been below average for over a year. The records by months in the 1967 water year are as follows:

Month	Percent of Average Discharge (1948-62)
October	79 (Adjusted for storage)
November	80 " " "
December	96 " " "

* Preliminary data furnished by Current Records Center, U. S. Geological Survey, Portland, Oregon.

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STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1967

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
1057	Columbia at The Dalles	[c]	April-June	74,100	
		[c]	April-Sept.	108,500	

HISTORICAL DATA (Columbia River at The Dalles)

YEAR	STREAMFLOW[d] (1,000 A.F.) APR.—SEPT.	APR.—JUNE	MAY—JUNE	PEAK (1,000 c.f.s)	DATE
1943	115,000	75,300	52,400	541	June 21
1944	61,900	39,200	32,100	326	June 19
1945	81,600	54,600	47,300	505	June 8
1946	108,100	75,400	59,600	581	May 30
1947	100,300	70,000	56,800	536	May 11
1948	130,500	94,600	81,900	999	May 31
1949	95,700	71,400	56,000	622	May 18
1950	120,400	74,700	61,200	744	June 25
1951	113,000	75,600	59,100	597	May 26
1952	107,700	77,500	57,300	557	May 28
1953	100,600	64,900	55,800	609	June 17
1954	119,500	70,500	59,300	561	May 23
1955	99,500	58,300	50,300	545	June 26
1956	131,400	96,900	75,800	815	June 3
1957	105,700	80,500	67,200	700	May 22
1958	97,700	72,000	58,600	593	May 31
1959	112,500	71,900	58,900	555	June 23
1960	97,000	64,000	48,000	442	June 6
1961	101,400	74,400	64,000	699	June 8
1962	94,600	64,100	49,200	460	June 5
1948-62 Avg.	108,500	74,100	60,200	633	
1963	87,000	56,300	46,200	437	June 18
1964	109,020	70,739	61,313	662	June 18

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)

VANCOUVER GAGE (Weather Bu.)	FLOW AT THE DALLES (1,000 c.f.s)	DRAINAGE DISTRICT PUMPHOUSE SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES 118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	943	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	897	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	853	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	811	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	771	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	733	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	697	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	662	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	628	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	595	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20 (1954)	564	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	534	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	501	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	479	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	452	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records.

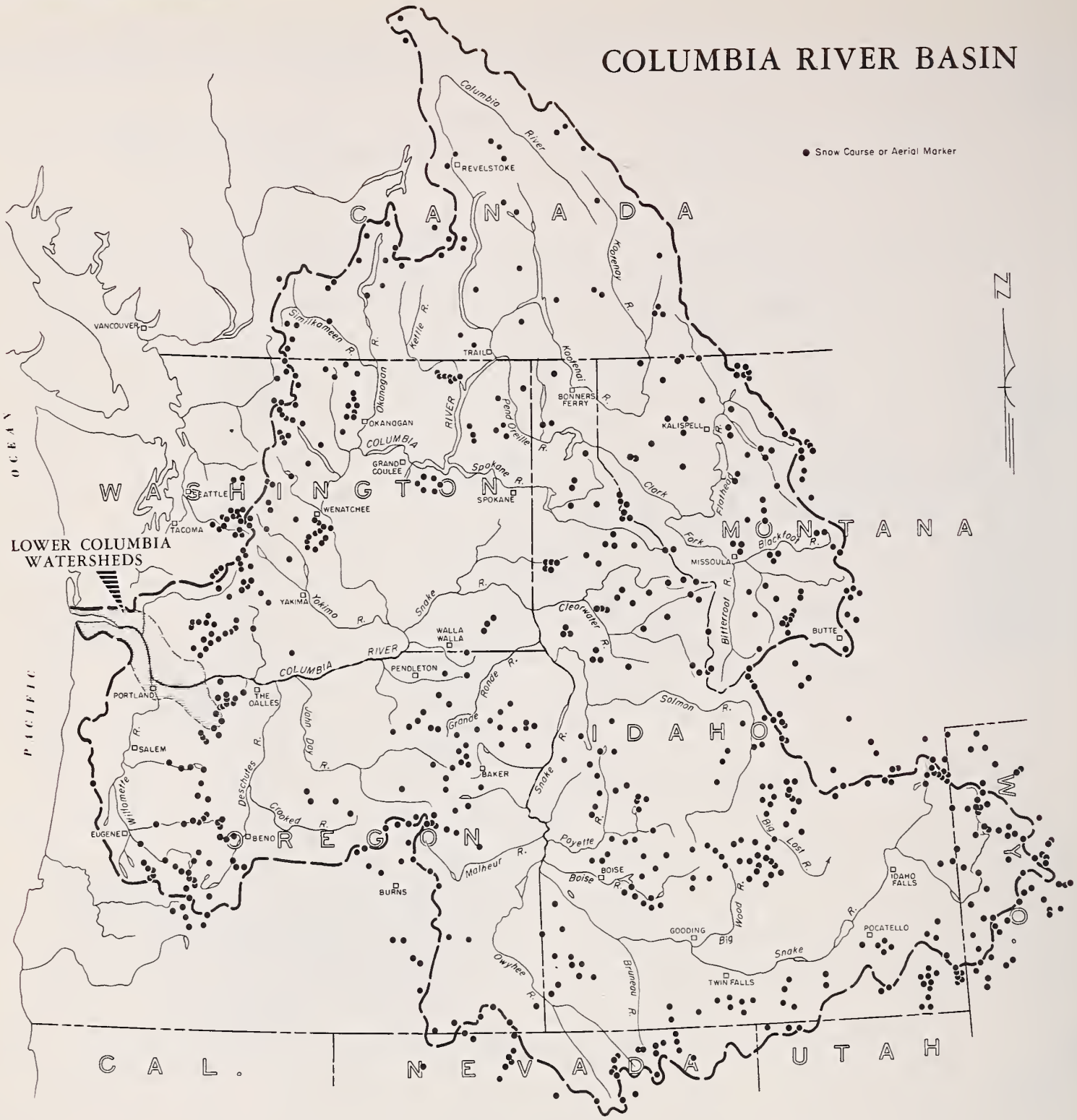
LOWER COLUMBIA WATERSHEDS

WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- (50) River Miles
- Snow Course
- Temperature
- Radio Telemetry

Lower Columbia Watersheds



"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
WILLAMETTE WATERSHEDS
OREGON

as of
JANUARY 1, 1967

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Farmers and other water users in the Willamette Valley, hoping for better water supplies than they experienced in 1966, may be slightly discouraged by the current snow surveys which report snow-stored water is now about 76 percent of the 15-year average (1948-62) compared with 90 percent of the average on January first last year.

SNOW COVER

About one-third of the total annual snowpack is normally accumulated on these watersheds by January first but this year there is much less. Storms have continued to increase the snowpacks in early January but at only four out of the twenty-eight measured snow courses has the figure exceeded that of last year when the snow was still below the January first average. These four snow courses are at the higher elevations.

SOIL MOISTURE

Accumulation of moisture in the top four feet of soil mantle under the snowpack is close to average with above average temperatures in December permitting rainfall to penetrate soils which would usually have received snowfall instead.

RESERVOIR STORAGE

Reservoirs in Willamette Basin are currently at low levels in accordance with the usual operating plans which provide for interception of large amounts of flood water at this time of the winter.

STREAMFLOW

Flow of the Middle Fork of the Willamette River* above Lookout Point reservoir has totalled 591,600 acre feet or 105 percent of the 15-year average (1948-62) from October 1, 1966 to January 1, 1967. Willamette watersheds are not yet completely recharged following the 1966 drought as indicated by the flow of the Middle Fork dropping off to 43 percent average by the first of January.

Total winter snow accumulation in the Willamette Basin will need to exceed average accumulation by about 25 to 30 percent to assure average water supply conditions in this area in 1967.

*Provisional data furnished by U. S. Geological Survey, Portland, Oregon.

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Calapooya Clackamas McKenzie Molalla Santiam, North Santiam, South Willamette, Coast Fork Willamette, Middle Fork	Forecasts begin in the February 1 report which will reach you about February 10, 1967.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1967

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cottage Grove	30.0*	0.0	0.2	1.3
Cougar	155.2*	0.0	0.0	- -
Detroit	299.9*	0.0	0.0	38.0[m]
Dorena	70.5*	0.9	1.0	6.5[m]
Fall Creek	115.0*	0.1	- -	- -
Fern Ridge	94.2*	0.1	24.8	8.7
Hills Creek	200.0*	0.0	0.0	- -
Lookout Point	337.2*	0.0	0.2	63.3
Timothy Lake	61.7	50.5	50.2	40.2

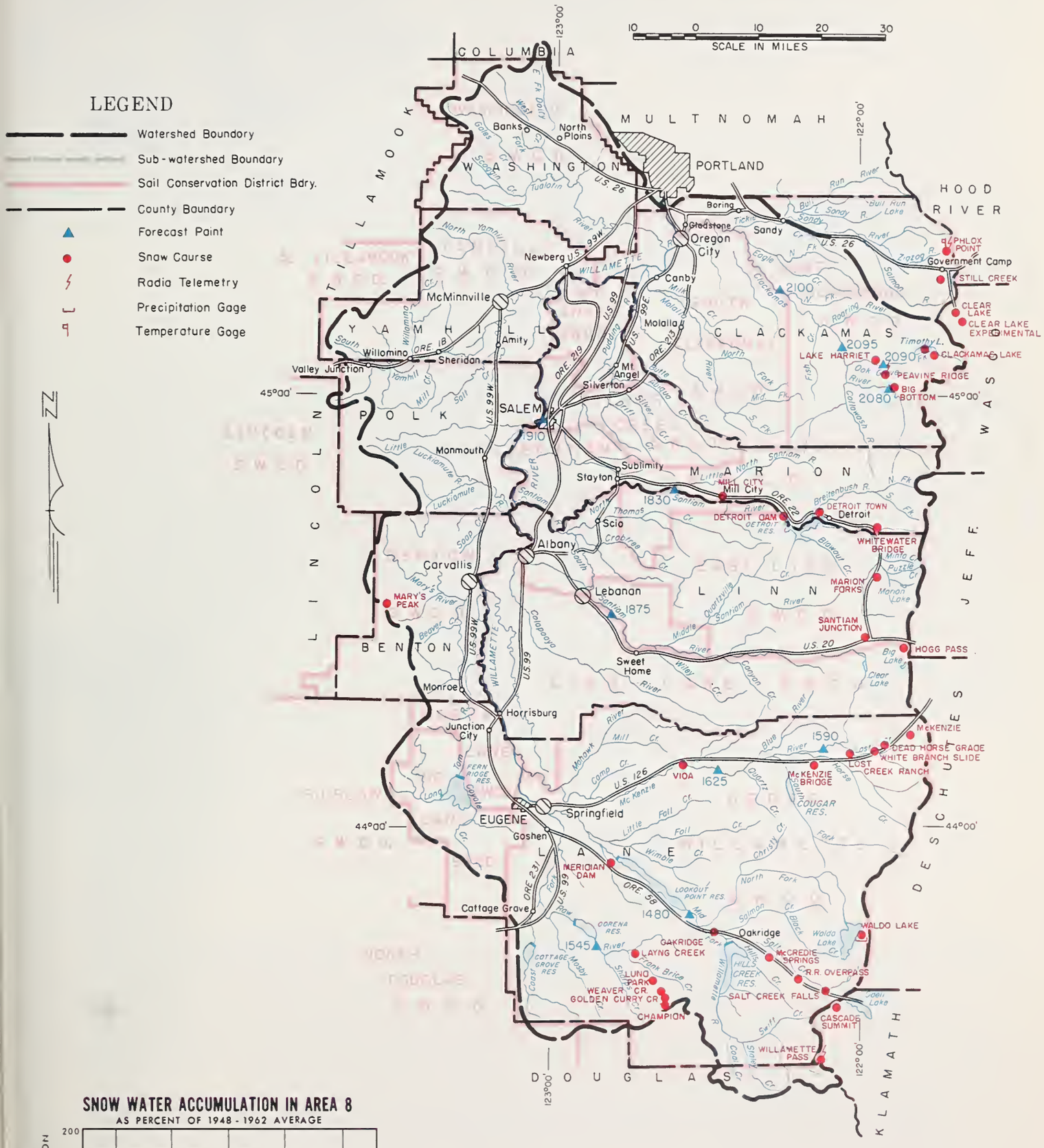
*Multiple purpose reservoir--space reserved primarily for flood runoff.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1967

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
2080	Clackamas at Big Bottom	c	April-July	150	
		c	April-Sept.	184	
2100	Clackamas at Estacada	c	April-July	770	
		c	April-Sept.	890	
2095	Clackamas above Three Lynx	c	April-July	584	
		c	April-Sept.	683	
1590	McKenzie at McKenzie Bridge	c	April-July	502	
		c	April-Sept.	658	
1625	McKenzie near Vida	c	April-July	1144	
		c	April-Sept.	1392	
2090	Oak Grove Fork above Power Intake	c	April-July	147	
		c	April-Sept.	190	
1545	Row near Dorena	c	April-July	108	
		c	April-Sept.	112	
1830	Santiam, North at Mehama[d]	c	April-July	884	
		c	April-Sept.	991	
1875	Santiam, South at Waterloo	c	April-July	637	
		c	April-Sept.	675	
1840	Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge[d]	c	April-July	863	
		c	April-Sept.	968	
1910	Willamette at Salem[d]	c	April-July	5040	
		c	April-Sept.	5566	
	NOTE: FORECASTS BEGIN ON FEB. 1, 1967.				

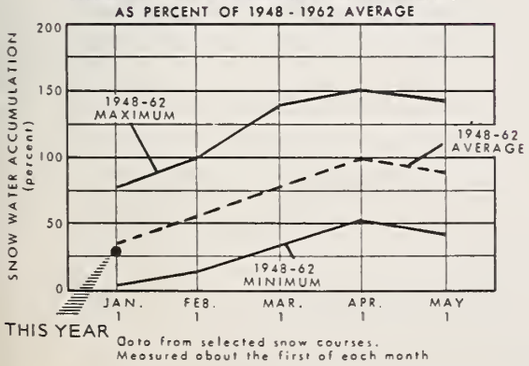
(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WILLAMETTE WATERSHEDS



SNOW WATER ACCUMULATION IN AREA 8

AS PERCENT OF 1948 - 1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month

Willamette Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Big Bottom	2118	No Report				
Cascade Summit	4880	12/30	32	9.8	7.8	13.2 [h]
Champion	4500	1/3	28	9.5	14.7	9.3 [h]
Clackamas Lake	3400	[c]				
Clear Lake	3500	1/3	8	2.8	3.0	3.4 [h]
Clear Lake (Experimental)	3500	1/3	16	5.2	4.9	- -
Dead Horse Grade	3800	1/2	23	6.4	11.6	8.8 [h]
Detroit Town	1610	12/30	0	0.0	4.7	0.3 [h]
Detroit Dam	1580	12/30	0	0.0	2.5	0.3 [h]
Golden Curry Creek	3136	1/3	0	0.0	6.0	3.2 [h]
Hogg Pass	4755	12/30	42	12.5	14.1	16.6
Lake Harriet	2045	No Report				
Layng Creek	1200	1/3	0	0.0	0.0	0.0 [m]
Lost Creek Ranch	1956	1/2	0	0.0	6.6	1.2 [h]
Lund Park	1740	1/3	0	0.0	T	0.8 [m]
Marion Forks	2730	12/30	11	3.8	5.5	5.5
Marys Peak	3620	[c]				
McCredie Springs	2120	12/30	0	0.0	1.5	0.3 [h]
McKenzie	4800	1/2	44	13.4	28.6	22.2 [h]
McKenzie Bridge	1372	1/2	0	0.0	2.6	0.1 [h]
Meridian Dam	750	12/30	0	0.0	0.0	0.0 [h]
Mill City	826	12/30	0	0.0	1.7	0.0 [m]
Oakridge	1310	12/30	0	0.0	0.0	T [h]
Peavine Ridge	3500	No Report				
Phlox Point	5400	1/3	63	21.9	14.0	27.2
Railroad Overpass	2750	12/30	0	0.0	3.2	1.0 [h]
Salt Creek Falls	4000	12/30	20	6.2	4.7	6.0 [h]
Santiam Junction	3990	12/30	25	7.2	9.2	9.8
Still Creek	3670	1/3	20	7.2	5.1	10.8
Timothy Lake	3295	No Report				
Vida	800	1/2	0	0.0	0.0	0.0 [h]
Waldo Lake	5500	[c]				
Weaver Creek	2440	1/3	0	0.0	2.8	0.3 [h]
White Branch Slide	2800	1/2	T	T	7.1	3.1 [h]
Whitewater Bridge	2175	12/30	0	0.0	3.9	2.7 [h]
Willamette Pass	5600	[c]				

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
ROGUE, UMPQUA, WATERSHEDS
OREGON

as of

JANUARY 1, 1967

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Farmers, ranchers and other water users in the Rogue-Umpqua area, hoping for better water supplies than they experienced in 1966, may be slightly discouraged by the current snow surveys which report snow-stored water is now about 83 percent of the 15-year average (1948-62) for January first. It was about 80 percent of the average on the same date last year.

SNOW COVER

About one-third of the total annual snowpack is normally accumulated on these watersheds by January first but there is much less this year. Only five out of the fifteen snow courses measured have more snow-stored water than last year on January first. These are at elevations above 5200 feet. The lower stations received precipitation in the form of rain rather than snow due to warmer than usual temperatures.

SOIL MOISTURE

Accumulation of moisture in the top four feet of the soil mantle under the snowpack has been unsatisfactory. Although much water entered the soils during the very wet November this has not been enough to recharge upper watershed soils which were wet down only 2 inches in some places at the end of October.

RESERVOIR STORAGE

Stored water supplies in the three reservoirs of the Talent Irrigation District now total 61,600 acre feet compared with 69,200 a. f. the previous year. There are no current reports on storage in the two upper reservoirs of the Medford Irrigation District.

STREAMFLOW

Flow of the Umpqua River near Elkton and of the Rogue River at Roygold has been 109 percent and 95 percent of the 15-year average (1948-62) from October 1, 1966 to January 1, 1967.

Poor recharge of the Rogue watershed is well illustrated by the rapid decrease in flow from 167 percent average in the first week of December to 44 percent average in the week of December 28-January 3.

Total winter snow accumulation in the Rogue-Umpqua watersheds will need to exceed average accumulation by about 25 to 30 percent to assure average water supply conditions in this area in 1967.

*Preliminary data from U. S. Geological Survey, Portland, Oregon.

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Althouse Creek Applegate River, Big Applegate River, Little Ashland Creek Butte Creek, Big Butte Creek, Little Cow Creek Deer Creek Elk Creek Emigrant Creek (abv. Res.) Evans Creek Gold Hill Irrigation Dist. Grants Pass Irrig. Dist. Grave Creek Illinois River, East Fork Illinois River, West Fork Jump-off-Joe Creek Neil Creek Red Blanket Creek Rogue River Sucker Creek Table Rock Irrig. Dist. Thompson Creek Wagner Creek Williams Creek	Forecasts begin in the February 1 report which will reach you about February 10, 1967.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1967

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Emigrant Gap	39.0	19.3	14.5	17.6*
Fish Lake	7.8	b	7.2	4.7
Fourmile Lake	16.1	b	8.9	7.9
Howard Prairie	60.0	32.6	42.5	- -
Hyatt Prairie	16.1	9.7	12.2	6.4

*Average for years of record after reconstruction.

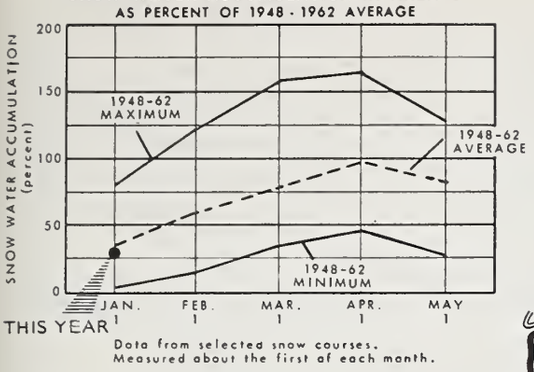
STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1967

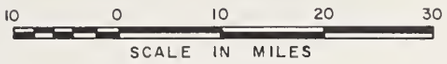
FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
3620	Applegate near Copper	c	April-Sept.	142	
3145	Clearwater above Trap Creek[d]	c	April-Sept.	75	
5045	Fourmile Lake net Inflow[d]	c	April-Sept.	6.6	
		c	Feb.-Sept.	7.0	
5140	Hyatt Reservoir net Inflow[d]	c	April-Sept.	6.4	
3770	Illinois River at Kerby	c	March-July	348	
		c	April-Sept.	212	
3425	Little Butte, N. Fk. at Fish Lake nr. Lake Cr.[d]	c	April-Sept.	16.0	
3415	Little Butte, S. Fork near Lake Creek	c	April-July	38	
	Note: Minimum flow will drop to 100 c.f.s. by c.				
3280	Rogue above Prospect	c	April-July	295	
3320	Rogue, South Fork near Prospect[d]	c	April-July	70	
		c	April-Sept.	82	
3350	Rogue below South Fork	c	April-July	611	
		c	April-Sept.	754	
3590	Rogue at Raygold near Central Point	c	April-July	837	
		c	April-Sept.	1001	
3615	Rogue at Grants Pass	c	April-Sept.	993	
3135	Umpqua, No. blw. Lemolo Res. nr. Toketee Falls[d]	c	April-Sept.	186	

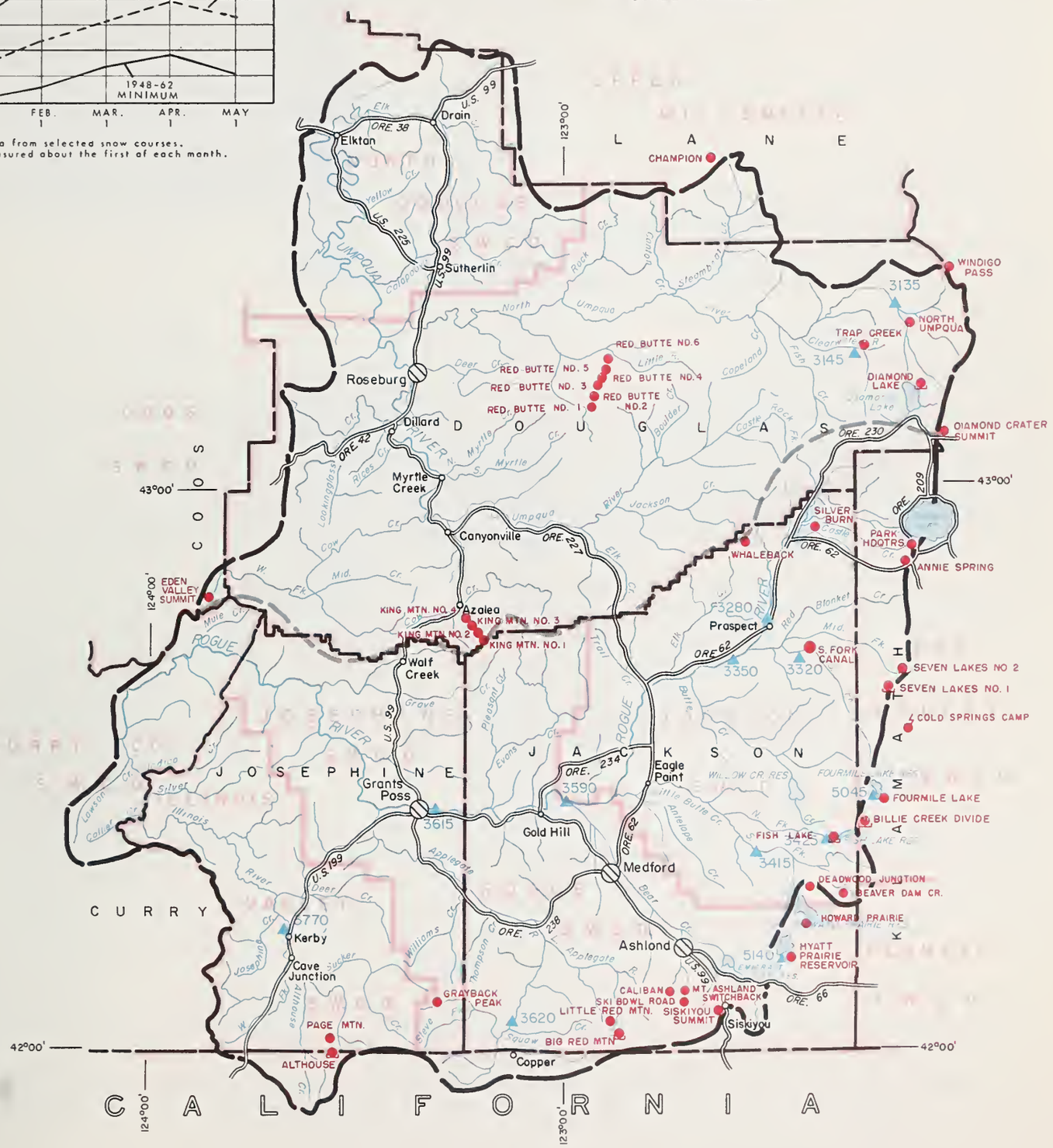
NOTE: FORECASTS BEGIN ON FEB. 1, 1967

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

ROGUE, UMPQUA WATERSHEDS







LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- Forecast Point
- Snow Course
- Precipitation Gage
- Radio Telemetry

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Althouse	4530	c				
Annie Spring	6018	12/27	51	16.3	11.8	16.6
Beaver Dam Creek	5100	12/30	21	5.5	- -	- -
Big Red Mountain	6500	c				
Billie Creek Divide	5300	12/30	30	8.8	5.6	9.6 h
Caliban	6500	c				
Champion	4500	1/3	28	9.5	14.7	9.3 h
Cold Springs Camp	6100	c				
Deadwood Junction	4600	12/30	17	3.7	- -	- -
Diamond Crater Summit	5800	12/29	39	11.5	4.5	- -
Diamond Lake	5315	12/29	24	5.8	1.6	10.0
Eden Valley Summit	2390	No Report				
Fish Lake	4865	No Report				
Fourmile Lake	6000	c				
Grayback Peak	6000	c				
Howard Prairie	4500	12/30	15	4.7	4.9	- -
Hyatt Prairie Reservoir	4900	12/30	12	3.1	4.5	3.7 h
King Mountain #1	4800	No Report				
King Mountain #2	3646	No Report				
King Mountain #3	2550	No Report				
King Mountain #4	1779	No Report				
Little Red Mountain	6500	c				
Mt. Ashland Switchback	6400	c				
North Umpqua	4215	12/27	14	4.2	- -	6.7 h
Page Mountain	4045	c				
Park Headquarters	6450	12/27	67	23.4	16.8	22.2
Red Butte #1	4560	No Report				
Red Butte #2	4000	No Report				
Red Butte #3	3500	No Report				
Red Butte #4	3000	No Report				
Red Butte #5	2500	No Report				
Red Butte #6	2000	No Report				
Seven Lakes #1	6800	c				
Seven Lakes #2	6200	c				
Silver Burn	3720	12/29	14	4.0	15.6	5.0
Siskiyou Summit	4630	1/1	6	1.6	- -	3.0
Ski Bowl Road	6000	c				
South Fork Canal	3500	12/29	T	T	8.8	1.6
Trap Creek	3800	12/27	11	3.6	12.3	3.8 h
Whaleback	5140	c				
Windigo Pass	5800	c				

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
KLAMATH WATERSHEDS
OREGON

as of

JANUARY 1, 1967

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Ranchers, farmers and other water users in Klamath County, hoping for relief from the 1966 water shortages that affected range lands and some areas of direct diversion will be encouraged by the current snow surveys which indicate that snow stored water is now about 96 percent of the 15-year average (1948-62) for January 1. Soil moisture conditions are about average having improved from the dry conditions of late summer and early fall. Reservoir storage is close to average and water supplies should be sufficient for the coming irrigation season.

SNOW COVER

Slightly more than one-third of the annual snow accumulation is usually received by January 1 and this years total to date compares favorably.

SOIL MOISTURE

Soil moisture in the top four feet of the soil profile increased from about 48 percent of capacity as of October 1 to 68 percent by late December and is slightly better than last year.

RESERVOIR STORAGE

Clear Lake currently contains 169,100 acre feet which is 96 percent of the January 1 average (1948-62) and 78 percent of last years storage. Gerber is presently storing 36,200 acre feet which compares with 50,900 last year on January 1 and the average (1948-62) at this date which is 26,400 acre feet. Upper Klamath Lake's contents are 321,800 acre feet which is 98 percent of the 1948-62 average and 117 percent of last year.

STREAMFLOW

Spring and summer streamflow is expected to be about average if snow continues to accumulate at the average rate.

Total winter accumulation of snow in Klamath County will need to remain near average to assure adequate water supplies in 1967.

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Ft. Klamath Valley Lost River (Clear Lake) Lost River (Gerber) Lost River (Willow Res.) Sprague River Upper Klamath Lake Williamson River	Forecasts begin in the February 1 report which will reach you about February 10, 1967.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1967

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Clear Lake	440.2	169.1	217.0	175.7
Gerber	94.0	36.2	50.9	26.4[m]
Upper Klamath Lake	584.0	321.8	275.5	328.4

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1967

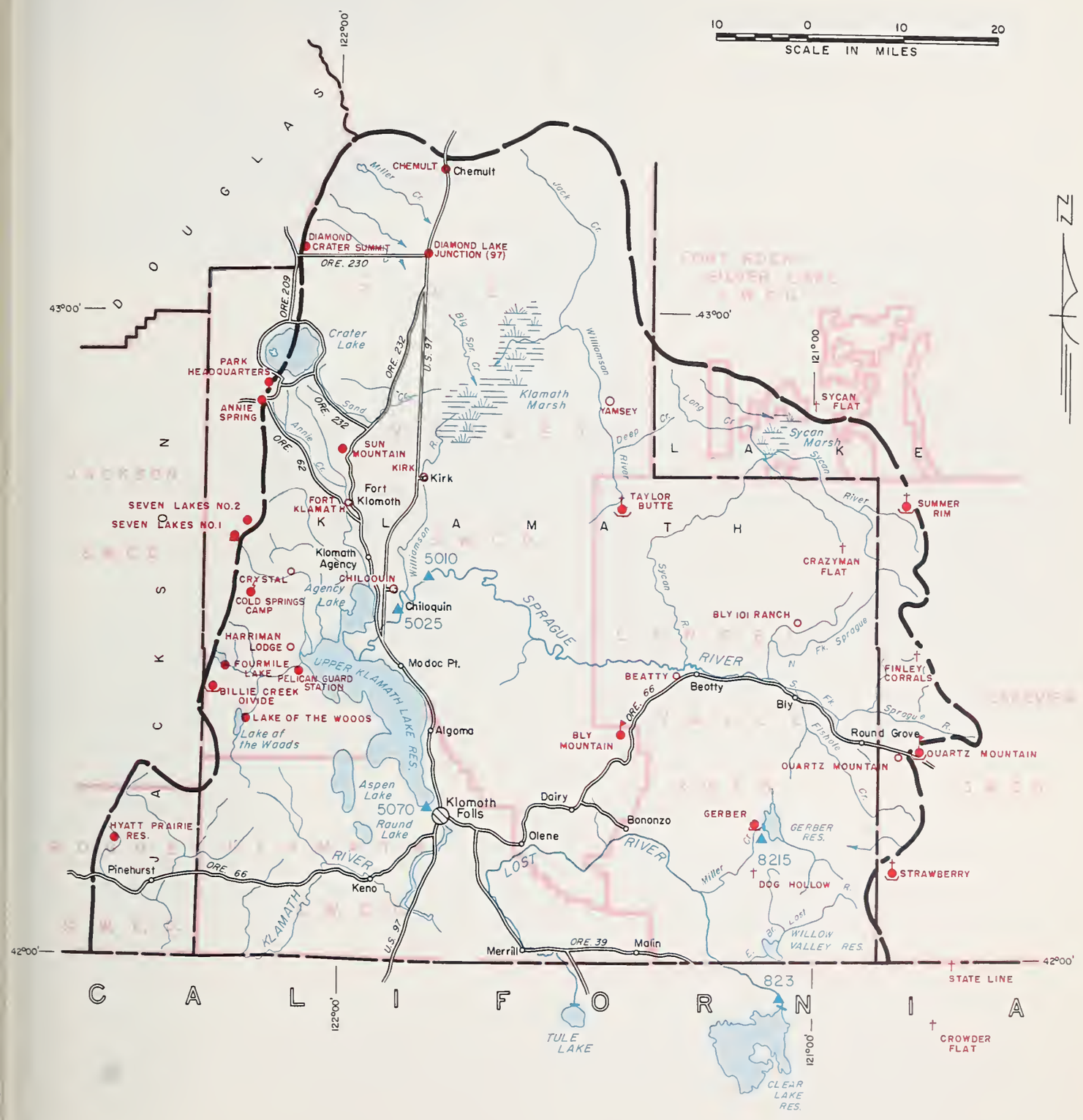
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
923	Clear Lake Reservoir Inflow[k]	c	Feb.-June	98	
8215	Gerber Reservoir Inflow[k]	c	Feb.-June	48	
5010	Sprague near Chiloquin	c	Feb.-Sept.	390	
		c	April-Sept.	289	
5070	Upper Klamath Lake net Inflow[d k]	c	Feb.-Sept.	1002	
		c	April-Sept.	639	
5025	Williamson below Sprague River	c	Feb.-Sept.	683	
		c	April-Sept.	490	
	NOTE: FORECASTS BEGIN ON FEB. 1, 1967.				

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Bly Mountain	5090	42	14.0	12-23-66	9.5	- -	12.8

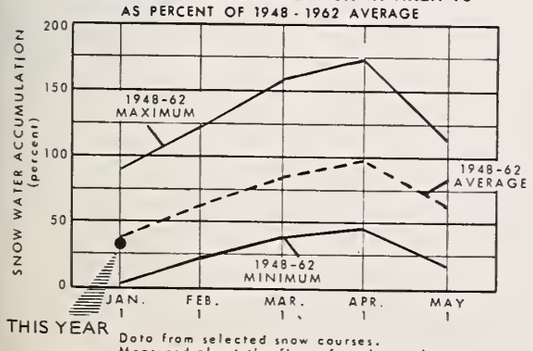
(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

KLAMATH WATERSHEDS



SNOW WATER ACCUMULATION IN AREA 10

AS PERCENT OF 1948 - 1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month.

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- COPCO Snow Station
- Soil Moisture Station
- Precipitation Gage
- Radio Telemetry

OR-10c

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Annie Spring	6018	12/27	51	16.3	11.8	16.6
Beatty (PP&L)	4300	12/30	T	T	- -	0.2
Billie Creek Divide	5300	12/30	30	8.8	5.6	9.6 [h]
Bly Mountain	5090	12/23	11	2.8	- -	2.7 [m]
Bly 101 Ranch (PP&L)	4800	1/1	0	0.0	1.1	0.9
Chemult	4760	12/30	13	3.9	5.2	4.8
Chiloquin (PP&L)	4187	12/31	0	0.0	1.8	0.9
Cold Springs Camp	6100	[c]				
Crazyman Flat [e]	6100	[c]				
Crowder Flat [e] (Calif.)	5200	[c]				
Crystal (PP&L)	4200	12/31	10	3.4	3.0	4.2
Diamond-Crater Summit	5800	12/29	39	11.5	4.5	- -
Diamond Lake Junction (97)	4600	12/29	9	1.9	1.2	- -
Dog Hollow [e]	4900	[c]				
Finley Corrals [e]	6000	[c]				
Fort Klamath (PP&L)	4150	12/29	4	1.4	2.1	1.5
Fourmile Lake	6000	[c]				
Gerber	4850	1/3	T	T	1.1	1.6 [h]
Harriman (PP&L)	4200	12/31	5	1.7	2.7	2.0
Hyatt Prairie Reservoir	4900	12/30	12	3.1	4.5	3.7 [h]
Kirk (PP&L)	4533	Report	Delayed			
Lake of the Woods	4960	12/28	15	4.9	3.6	5.7
Park Headquarters	6450	12/27	67	23.4	16.8	22.2
Pelican Guard Station	4150	12/30	4	1.6	2.5	- -
Quartz Mountain	5320	12/30	13	3.1	3.5	3.0 [h]
Quartz Mountain (PP&L)	5504	Snowpack	Destroyed			
Seven Lakes #1	6800	[c]				
Seven Lakes #2	6200	[c]				
State Line [e] (Calif.)	5750	[c]				
Strawberry	5760	[c]				
Summer Rim	7200	[c]				
Sun Mountain	5350	12/28	27	7.5	3.9	10.4
Sycan Flat [e]	5500	[c]				
Taylor Butte	5100	12/27	12	3.9	1.8	2.2 [m]
Yamsey (PP&L)	4600	No	Report			

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
LAKE COUNTY, GOOSE LAKE WATERSHEDS
OREGON

as of

JANUARY 1, 1967

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Ranchers, farmers and other water users in Lake County, hoping for relief from the costly water shortage of 1966, will be only slightly encouraged by the current snow surveys which report snow-stored water is now about 103 percent of the 15-year average (1948-62) for January first compared with about 106 to 115 percent average on the same date last year. Soil moisture conditions are slightly improved but reservoired water supplies are below average and less than last year at this time.

SNOW COVER

About one-half of the total annual snowpack is normally accumulated on Lake County watersheds by January first and current snow surveys indicate snow-stored water is now right up to the January first average. However, the snowpack is above last years and the average only at higher elevations above 5500 feet.

SOIL MOISTURE

Accumulation of moisture in the top four feet of the soil mantle under the snowpack has recently reached about 67 percent of capacity and is about 7 percent greater than last year.

RESERVOIR STORAGE

Stored water in Cottonwood reservoir is now 700 acre feet compared with 900 acre feet last year and a January first average of 2,400 acre feet. The larger Drews Valley reservoir contains 25,000 acre feet compared with 39,900 acre feet last year and an average of 29,400 a. f. for the first of the year. There are no reports for Thompson Valley or other reservoirs.

STREAMFLOW

Spring and summer streamflow in Lake County is expected to be some below the 15-year average (1948-62) if snow continues to accumulate at the average rate.

Total winter accumulation of snow in Lake County will need to exceed average accumulation by about 20 percent to assure average water supply conditions in 1967.

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Chewaucan Crooked Creek Deep Creek Dry Creek East Side Goose Lake Guano Lake Honey Creek Lakeview Water Users Assn. Rock Creek (Hart Mtn.) Silver-Buck Creeks Summer Lake Thomas Creek Twentymile Creek Warner Lakes	Forecasts begin in the February 1 report which will reach you about February 10, 1967.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1967

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cottonwood	8.7	0.7	0.9*	2.4**
Drews	63.0	25.0	39.9*	29.4
Thompson Valley	17.4		- -	- -

* Dec. 6, 1965

**Average for years of record after reconstruction.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1967

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
3840	Chewaucan near Paisley	c	March-June	89	
3715	Deep above Adel	c	March-June	78	
3385	Drews Reservoir net Inflow[d]	c	March-July	47	
3785	Honey Creek near Plush	c	March-June	18.0	
3660	Twentymile near Adel	c	March-June	28	

NOTE: FORECASTS BEGIN ON FEB. 1, 1967.

SOIL MOISTURE

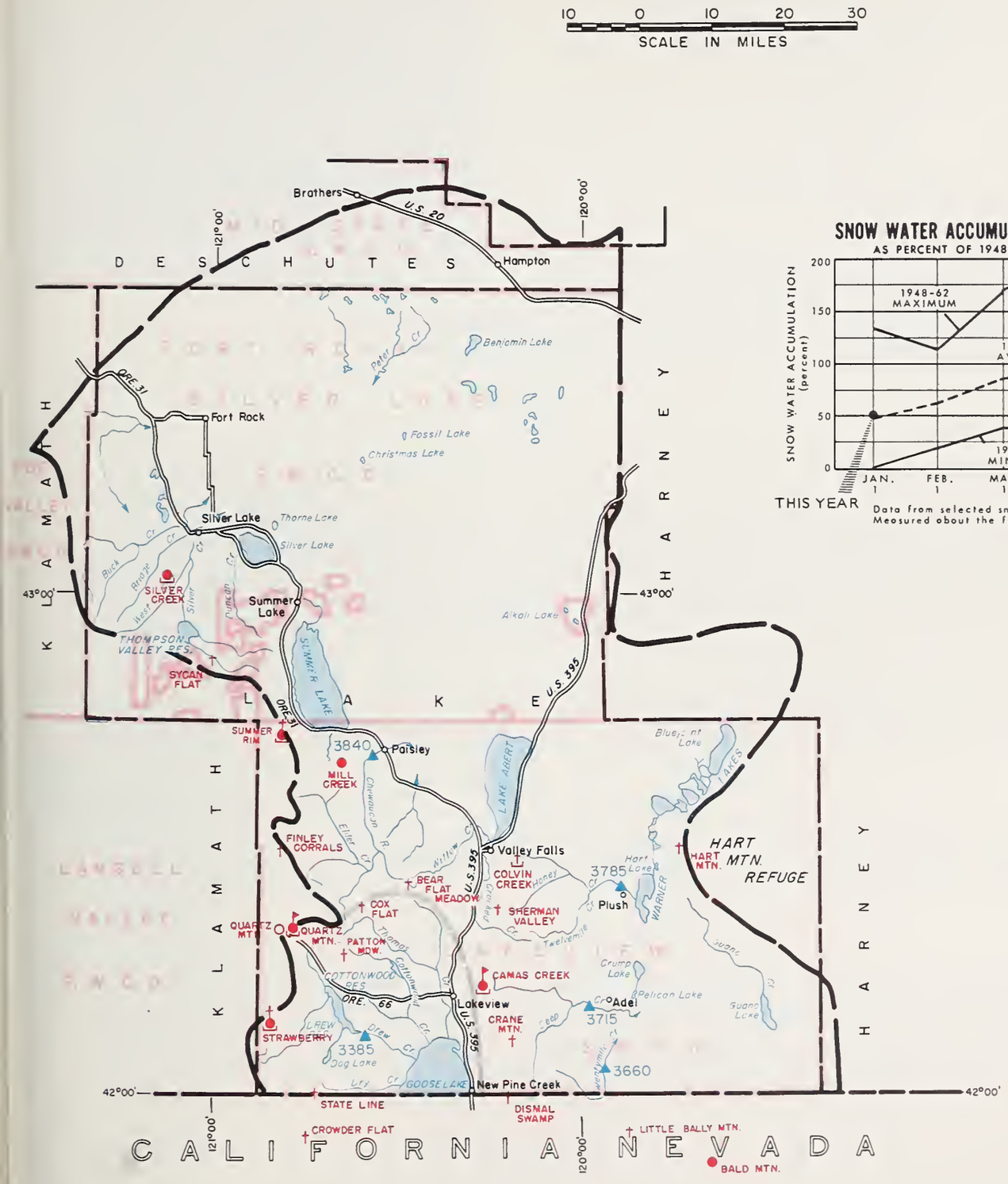
STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) CAPACITY	SOIL MOISTURE (Inches) DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Camas Creek	5720	42	14.5	1-3-67	11.8	11.4	13.2
Quartz Mountain	5320	48	15.3	12-30-66	8.2	7.2	15.0

SNOW

SNOW COURSE NAME	ELEVATION	CURRENT INFORMATION DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	PAST RECORD WATER CONTENT (Inches) LAST YEAR	1948-62 AVERAGE
Bald Mountain (Nev.)	6720	c				
Bear Flat Meadow[e]	5900	c				
Camas Creek	5720	1/3	11	2.7	2.4	- -
Colvin Creek[e]	6550	c				
Cox Flat[e]	5750	c				
Crane Mountain[e]	6020	c				
Crowder Flat[e] (Calif.)	5200	c				
Dismal Swamp[e] (Calif.)	7000	c				
Finley Corrals[e]	6000	c				
Hart Mountain[e]	6350	c				
Little Bally Mountain[e] (Nev.)	6600	c				
Mill Creek	6200	c				
Patton Meadows[e]	6800	c				
Quartz Mountain (PP&L)	5504	Snowpack	Destroyed			
Quartz Mountain	5320	12/30	13	3.1	3.5	3.0[h]
Sherman Valley[e]	6600	c				
Silver Creek	4900	12/30	4	0.6	1.7	1.9[h]
State Line[e] (Calif.)	5750	c				
Strawberry	5760	c				
Summer Rim	7200	c				
Sycan Flat[e]	5500	c				

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

LAKE COUNTY, GOOSE LAKE WATERSHEDS



SNOW WATER ACCUMULATION IN AREA 11

AS PERCENT OF 1948 - 1962 AVERAGE

Data from selected snow courses.
Measured about the first of each month.

N

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
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- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- COPCO Snow Station
- Soil Moisture Station
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"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
HARNEY BASIN WATERSHEDS
OREGON

as of

JANUARY 1, 1967

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Ranchers and other water users in Harney Basin, hoping for relief from the costly water shortage of 1966, will be encouraged by the current snow surveys which report snow-stored water is now about 107 percent of the 15-year average (1948-62) for January first compared with about 52 percent average on the same date last year. Soil moisture is also greater than last year.

SNOW COVER

About one-third of the total annual snowpack is normally accumulated on Harney Basin watersheds by January first and current snow surveys indicate snow-stored water is now above that point.

SOIL MOISTURE

Moisture in the top four feet of soil mantle under the snowpack has reached 71 percent of capacity compared with 51 percent one year ago. These measurements apply to the north half of the basin. No reports have been received from south Harney.

STREAMFLOW

Spring and summer flows of Harney Basin streams are expected to be near average if snow continues to accumulate in normal amounts for the balance of the winter.

Total winter snow accumulation in Harney Basin will need to exceed average accumulation by 10 to 15 percent to assure average water supply conditions in 1967.

Report prepared by
W.T. FROST AND TOM GEORGE
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Catlow Valley Cow Creek Donner und Blitzen River Mill-Coffeepot Creeks Rattlesnake Creek Silver Creek Silvies River Soldier-Prather Creek Trout Creek Whitehorse Creek	Forecasts begin in the February 1 report which will reach you about February 10, 1967.	

RESERVOIR STORAGE (1,000 Ac. Ft.) January 1, 1967

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of January 1, 1967

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
3960	Donner und Blitzen near Frenchglen	*c*	March-June	59	
		c	April-Sept.	62	
4030	Silver near Riley	*c*	April-July	22	
3935	Silvies River near Burns	*c*	March-June	116	
		c	April-Sept.	99	
4065	Trout Creek near Denio	*c*	March-July	8.7	
	NOTE: FORECASTS BEGIN ON FEB. 1, 1967.	*c*	April-Sept.	8.4	

SOIL MOISTURE

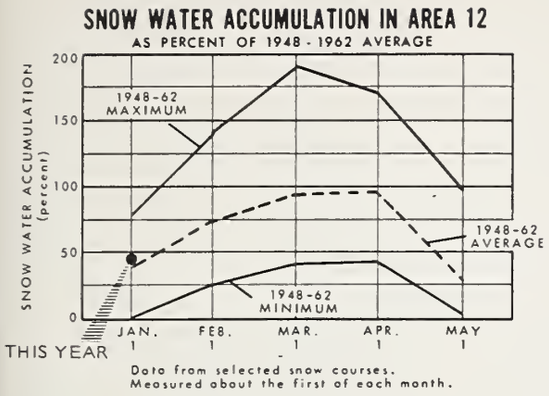
STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) CAPACITY	SOIL MOISTURE (Inches) DATE	SOIL MOISTURE (Inches) THIS YEAR	SOIL MOISTURE (Inches) LAST YEAR	SOIL MOISTURE (Inches) 2 YEARS AGO
Blue Mountain Springs	5900	42	16.9	12-29-66	7.8	6.6	13.1
Fish Creek	7900	48	15.0	*c*			
Folly Farm	4450	30	12.5	*c*			
Silvies	6900	48	16.4	*c*			
Snow Mountain	6300	48	16.7	*b*			
Starr Ridge	5150	36	10.6	12-28-66	10.0	7.5	10.3
Stinking Water Summit	4800	48	21.9	*b*			
Willow-Bald	5000	24	6.6	12-29-66	6.4	3.4	6.4

SNOW

SNOW COURSE NAME	SNOW COURSE ELEVATION	CURRENT INFORMATION DATE OF SURVEY	CURRENT INFORMATION SNOW DEPTH (Inches)	CURRENT INFORMATION WATER CONTENT (Inches)	PAST RECORD WATER CONTENT (Inches) LAST YEAR	PAST RECORD WATER CONTENT (Inches) 1948-62 AVERAGE
Blue Mountain Springs	5900	12/29	27	6.8	2.8	6.0[h]
Buck Pasture[e]	5700	*c*				
Buckskin Lake[e]	5200	*c*				
Call Meadows[e]	5340	*c*				
Crow Camp[e]	5500	*c*				
Delintment Lake	5600	*c*				
Denio Creek[e]	6000	*c*				
Disaster Peak (Nev.)	6500	*c*				
Emigrant Butte	5000	*c*				
Fish Creek	7900	*c*				
Hart Mountain[e]	6350	*c*				
Idlewild Camp	5200	12/28	12	1.8	1.2	2.1
Izee Summit	5293	12/29	16	3.8	1.8	3.1[h]
Lake Creek	5120	12/29	19	4.4	2.1	- -
Oregon Canyon[e]	6950	*c*				
Rock Spring	5100	12/28	13	2.1	0.9	2.1
Silvies	6900	*c*				
Snow Mountain	6300	*c*				
Starr Ridge	5150	12/28	12	2.5	1.2	2.4[h]
Stinking Water	4800	12/29	9	2.0	1.3	2.0[h]
Trout Creek[e]	7800	*c*				
"V" Lake[e]	6600	*c*				

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

HARNEY BASIN WATERSHEDS



LEGEND

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Map and Index to OREGON SNOW COURSES

OWYHEE, MALHEUR WATERSHEDS (1)

Owyhee River

Number	Name		Sec.	Twp.	Rge.	Elev.
[illegible]	[illegible] Ridge	(Ida)	20	8S	1E	5900
[illegible]	Battle Creek	(Ida)	10	11S	1E	5700
[illegible]	Bear Creek	(Nev)	31	46N	58E	7800
[illegible]	Big Bend	(Nev)	30	45N	56E	6700
[illegible]	Blue Mtn Pass		4	38S	42E	5290
[illegible]	Buckskin, Lower	(Nev)	25	45N	39E	6700
[illegible]	Buckskin, Upper	(Nev)	11	45N	39E	7200
[illegible]	[illegible] Basin	(Ida)	29	12S	5W	5600
[illegible]	Columbia Basin	(Nev)	31	44N	53E	6650
[illegible]	Disaster Peak	(Nev)	8	47N	34E	6500
[illegible]	[illegible] Creek	(Nev)	2	45N	52E	7000
[illegible]	Fish Creek		4	33S	33E	7900
[illegible]	[illegible] Summit		8	30S	38E	4450
[illegible]	[illegible] Creek	(Nev)	33	46N	58E	6800
[illegible]	[illegible]	(Nev)	31	43N	54E	6700
[illegible]	[illegible] Creek	(Nev)	31	45N	56E	6600
[illegible]	[illegible] Peak	(Nev)	22	44N	39E	7800
[illegible]	[illegible]	(Ida)	31	8S	2W	5800
[illegible]	[illegible] Creek, Lower	(Nev)	18	42N	53E	6800
[illegible]	[illegible] Creek, Upper	(Nev)	8	42N	53E	7250
[illegible]	[illegible] Peak	(Nev)	28	42N	53E	8420
[illegible]	[illegible] Valley		0	30S	46E	4390
[illegible]	[illegible] Creek	(Nev)	13	42N	38E	6000
[illegible]	Laurel Draw	(Nev)	20	45N	53E	6700
[illegible]	[illegible] Butte		2	40S	47E	5650
[illegible]	[illegible] Canyon		27	40S	44E	6440
[illegible]	Martin Creek	(Nev)	18	44N	40E	6700
15H20a	Merritt Mountain	(Nev)	10	46N	54E	7000
16H3AP	Midas	(Nev)	18	39N	46E	7200
16G7M	Mud Flat	(Ida)	34	9S	2W	5500
17G5a	Oregon Canyon		8	40S	40E	6950
17H6a	Quinn Ridge	(Nev)	9	47N	41E	6300
16G11ap*	Red Canyon	(Ida)	32	11S	4W	6500
15H6MP	Rodeo Flat	(Nev)	36	43N	53E	6800
15H3A	76 Creek	(Nev)	6	44N	58E	7100
16F3AP*	Silver City	(Ida)	6	5S	3W	6400
18G1MA	Silvies		35	32S	32¾E	6900
16G1	South Mountain No. 2	(Ida)	10	2S	5W	6340
16F6a	Succor Creek	(Ida)	25	3S	5W	6100
15H9MP	Taylor Canyon	(Nev)	35	39N	53E	6200
16H7a	Toe Jam	(Nev)	29	40N	50E	7700
15H8	Tremewan Ranch	(Nev)	9	39N	55E	5700
16G4MA	Triangle	(Ida)	25	7S	3W	5150
18G5a	Trout Creek		10	41S	38E	7800
18G7a	"V" Lake		31	35½S	32¾E	6600
16G12a	Vaught Ranch	(Ida)	10	11S	1W	5950
16G13a	War Eagle	(Ida)	20	5S	3W	7700

Malheur River

Number	Name	Sec.	Twp.	Rge.	Elev.
18E14	Barney Creek	16	14S	36E	5950
18E16MP	Blue Mountain Spring	21	15S	35E	5900
18F6a	Buck Pasture	21	29S	35E	5700
18E21a	Bully Creek	10	17S	37E	5300
18F7a	Call Meadows	29	20S	33E	5340
17F2a	Cottonwood-Indian	10	19S	39E	4320
18E19M	Crane Prairie	24	16S	34E	5375
18F8a	Crow Camp		Unsurveyed (2)		
18E20	Eldorado Pass	20	14S	38E	4600
18E26a	Flag Prairie	32	16S	36E	4750
18E18	Lake Creek	10	16S	33½E	5120
18E22a	Logan Valley	13	16S	33½E	5100
18F1	Rock Spring	23	18S	32E	5100
18E32p*	S. Fk. Willow Cr.	2	16S	37E	5500
18F4MP	Stinking Water	33	21S	34E	4800

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS

Burnt River

Number	Name	Sec.	Twp.	Rge.	Elev.
18E14	Barney Creek	16	14S	36E	5950
18E13M	Blue Mountain Summit	6	12S	36E	5098
17E1MP	Dooley Mountain	32	11S	40E	5430
18E20	Eldorado Pass	20	14S	38E	4600
18E8	Gold Center	21	9S	36E	5340
18E9	Tipton	34	10S	35½E	5100

Powder River

Number	Name	Sec.	Twp.	Rge.	Elev.
18E1	Anthony Lake	18	7S	37E	7125
18E33	Anthony Ski Hill				
18E5	Bourne	33	8S	37E	5800
17E1MP	Dooley Mountain	32	11S	40E	5430
18E3	Eilertson Meadows	18	8S	38E	5400
18E8	Gold Center	21	9S	36E	5340
18E6A	Goodrich Lake	4	9S	38E	6775
18E29	Intake House	5	8S	38E	4930
17D12m	Ladd Summit	5	5S	39E	3730
18E23	Little Alps	10	7S	37E	6200
18E30	Little Antone	1	7S	37E	5000
18E28	Power Plant	33	7S	38E	3990
17D7	Taylor Green	3	6S	42E	5740

Pine Creek

Number	Name	Sec.	Twp.	Rge.	Elev.
17D8	Schneider Meadows	35	6S	45E	5400

Grande Ronde River

Number	Name	Sec.	Twp.	Rge.	Elev.
17D1	Aneroid Lake No. 1	16	4S	45E	7480
17D2P	Aneroid Lake No. 2	16	4S	45E	7300
18E1	Anthony Lake	18	7S	37E	7125
17D10a	Bald Mountain	14	4S	41E	6700
18D9	Beaver Reservoir	8	5S	37E	5340
18D8P	County Line	28	4S	34E	4800
18D6P	Lucky Strike	28	3S	32E	5050
18D5	Meacham	24 & 25	1S	35E	4300
17D13a	Mirror Lake	34	4S	44E	8200
17D6M	Moss Spring	28	3S	41E	5850
18D7	Schoolmarm	28	4S	34E	4775
17D11a	Standley	28	2S	42E	7400
17D7	Taylor Green	3	6S	42E	5740
18D3M	Tollgate	31	4N	38E	5070
17D15a	TV Ridge	12	2S	43E	7000

Imnaha River

Number	Name	Sec.	Twp.	Rge.	Elev.
17D1	Aneroid Lake No. 1	16	4S	45E	7480
17D2P	Aneroid Lake No. 2	16	4S	45E	7000
17D14a	Big Sheep	33	4S	46E	6200

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS (3)

Umatilla River

Number	Name	Sec.	Twp.	Rge.	Elev.
19D2P	Arbuckle Mountain	33	4S	29E	5400
18D14m	Athena-Weston Summit	21	4N	35E	1700
18D12MP	Battle Mountain Summit	29	3S	31E	4340
18D4M	Emigrant Springs	29	1N	35E	3925
18D6P	Lucky Strike	28	3S	32E	5050
18D5	Meacham	24 & 25	1S	35E	4300
18D3M	Tollgate	32	4N	38E	5070
18D13	Walla Walla Diversion	22	6N	38E	2400

Walla Walla River

Number	Name	Sec.	Twp.	Rge.	Elev.
18D16	Blue Mountain Camp	35	4N	37E	4300
18D3M	Tollgate	32	4N	38E	5070
18D17	Weston Mountain	25	4N	35E	2700

Willow Creek

Number	Name	Sec.	Twp.	Rge.	Elev.
19D2P	Arbuckle Mountain	33	4S	29E	5400
18E1P	Anthony Lake	18	7S	37E	7125

UPPER JOHN DAY WATERSHEDS (4)

Upper John Day River

Number	Name	Sec.	Twp.	Rge.	Elev.
19D2P	Arbuckle Mountain	33	4S	29E	5400
18D12MP	Battle Mountain Summit	29	3S	31E	4340
19E2M	Beech Creek Summit	4	12S	30E	4800
18E16MP	Blue Mountain Spring	21	15S	35E	5900
18E13M	Blue Mountain Summit	6	12S	36E	5098
19E3MP	Derr	14	13S	23E	5670
18E27a	East Fork Canyon	15	15S	32E	5700
18E8	Gold Center	21	9S	36E	5340
18E24a	Indian Cr. Butte	5	15S	33E	6550
19E9P	Izee Summit	28	16S	29E	5293
18D6P	Lucky Strike	28	3S	32E	5050
20E1MP	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
18E7	Olive Lake	14	9S	34E	6000
18D7	Schoolmarm	28	4S	34E	4775
19F1M	Snow Mountain	1	19S	26E	6300
19E7M	Starr Ridge	20	15S	31E	5150
18E9	Tipton	34	10S	35½E	5100
18E25MP	Williams Ranch	20	15S	32E	4500

UPPER DESCHUTES, CROOKED WATERSHEDS (5)

Upper Deschutes River

Number	Name	Sec.	Twp.	Rge.	Elev.
21E11	Black Pine Spring	14	16S	9E	4600
21F8	Caldwell Ranch	30	21S	8E	4400
22F3	Cascade Summit	7	23S	6E	4880
21F11	Chemult	21	27S	8E	4760
21F20P	Deer Creek	25	20S	7E	4554
21F14	Fire Road	36	21S	11E	5050
21E6	Hogg Pass	24	13S	7½E	4755
21F4	Hungry Flat	30	18S	11E	4400
21F6*	Irish-Taylor	25	20S	6E	5500
21F17	Mowich	29	25S	25E	4700
21F10	New Crescent Lake	11	24S	6E	4800
21F19P	New Dutchman Flat #2	21	18S	9E	6400
21F13P	Paulina Lake	34	21S	12E	6330
21F15	Paulina Prairie	28	21S	11E	4285
21F3	Tangent	28	18S	10E	5400
21E15	Three Creeks Butte	27	16S	9E	5200
21E13	Three Creek Meadows	34	16S	9E	5650
22F2P	Waldo Lake	15	21S	6E	5500
22F14*	Willamette Pass	33	24S	5½E	5600
22F15	Windigo Pass	32	25S	6E	5800

Crooked River

Number	Name	Sec.	Twp.	Rge.	Elev.
19E3MP	Derr	14	13S	23E	5670
20E1MP	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
19F1M	Snow Mountain	1	19S	26E	6300
19E4	Tamarack	8	15S	25E	4800

HOOD, MILE CREEKS LOWER DESCHUTES WATERSHEDS (6)

Hood River

Number	Name	Sec.	Twp.	Rge.	Elev.
21D6P	Brooks Meadows	2	2S	10E	4300
21D25M	Cooper Spur	6	2S	10E	3490
21D1	Greenpoint Reservoir	28	2N	9E	3400
21D20	Knebal Springs	31	1S	11E	3850
21D23	Parkdale	6	1S	10E	1770
21D8*	Phlox Point	6	3S	9E	5600
21D4	Red Hill	20	1S	9E	4400
21D9	Still Creek	25	3S	8½E	3700
21D7	Tilly Jane	15	2S	9E	6000
21D21	Ulrich Ranch Junction	28	1S	11E	3350
21D30	Umbrella Falls	3	3S	9E	5400
21D24	Upper Valley	20	1S	10E	2530
21D28	Switchback	28	1S	9E	3255

Mile Creeks - Mosier Creek

Number	Name	Sec.	Twp.	Rge.	Elev.
21D6P	Brooks Meadows	2	2S	10E	4300
21D20	Knebal Springs	31	1S	11E	3850
21D21	Ulrich Ranch Junction	28	1S	11E	3350

Lower Deschutes River

Number	Name	Sec.	Twp.	Rge.	Elev.
21D12	Clear Lake	29	4S	9E	3500
21D22	Clear Lake Experimental	29	4S	9E	3500
21E6	Hogg Pass	24	13S	7½E	4755

LOWER COLUMBIA WATERSHEDS (7)

Sandy River

Number	Name	Sec.	Twp.	Rge.	Elev.
21D8*	Phlox Point	6	3S	9E	5600
21D9	Still Creek	25	3S	8½E	3700

WILLAMETTE WATERSHEDS (8)

Clackamas River

Number	Name	Sec.	Twp.	Rge.	Elev.
21D15	Big Bottom	25	6S	7E	2118
21D13	Clackamas Lake	35	5S	8½E	3400
21D12	Clear Lake	29	4S	9E	3500
21D16	Lake Harriet	4	6S	7E	2045
21D14*	Peavine Ridge	14 & 15	6S	7E	3500
21D8*	Phlox Point	6	3S	9E	5600
21D9	Still Creek	25	3S	8½E	3700
21D17	Timothy Lake	26	5S	8E	3295

Santiam River

Number	Name	Sec.	Twp.	Rge.	Elev.
22E1	Detroit (town)	1	10S	5E	1610
22E2	Detroit Dam	7	10S	5E	1580
21E6	Hogg Pass	24	13S	7½E	4755
21E4	Marion Forks	28	11S	7E	2730
22E3	Mill City	29	9S	3E	826
21E5	Santiam Junction	14	13S	7E	3990
21E3	Whitewater Bridge	28	10S	7E	2175

McKenzie River

Number	Name	Sec.	Twp.	Rge.	Elev.
21E8	Dead Horse Grade	13	16S	7E	3800
22E4	Lost Creek Ranch	24	16S	6E	1956
21E7	McKenzie	35	15S	7½E	4800
22E5	McKenzie Bridge	13	16S	5E	1372
22E6	Vida	28	16S	2E	800
21E9	White Branch Slide	15	16S	7E	2800

Middle Fork Willamette River

Number	Name	Sec.	Twp.	Rge.	Elev.
22F3	Cascade Summit	7	23S	6E	4880
22F6	McCredie Springs	36	21S	4E	2120
22F8	Meridian Dam	13	19S	1W	750
22F7	Oakridge	16	21S	3E	1310
22F5	Railroad Overpass	21	22S	5E	2750
22F4	Salt Creek Falls	32	22S	5½E	4000
22F2P	Waldo Lake	15	21S	6E	5500
22F14*	Willamette Pass	33	24S	5½E	5600

Coast Fork Willamette River

Number	Name	Sec.	Twp.	Rge.	Elev.
22F9	Champion	12	23S	1E	4500
22F10	Golden Curry Creek	1	23S	1E	3136
22F13	Layng Creek R. S.	31	21S	1E	1200
22F12	Lund Park	22	22S	1E	1740
22F11	Weaver Creek	35	22S	1E	2440

Mary's River

Number	Name	Sec.	Twp.	Rge.	Elev.
23E1	Mary's Peak	21	12S	7W	3620

ROGUE, UMPQUA WATERSHEDS (9)

Rogue River

Number	Name	Sec.	Twp.	Rge.	Elev.
23G4	Althouse	17	41S	7W	4530
22G6	Annie Spring	19	31S	6E	6018
22G28	Beaver Dam Creek	1	38S	4E	5100
22G21P	Big Red Mountain	31	40S	1W	6500
22G13	Billie Creek Divide	30	36S	5E	5300
22G33	Caliban	16	40S	1E	6500
22G27	Deadwood Junction	8	38S	4E	4600
22F19	Diamond-Crater Summit	34	28S	6E	5800
22G14P	Fish Lake	3	37S	4E	4865
22G12	Fourmile Lake	9	36S	5E	6000
23G3	Grayback Peak	9	40S	5W	6000
22G26	Howard Prairie	32	38S	4E	4500
22G16	Hyatt Prairie Reservoir	15	39S	3E	4900
23G8	King Mountain No. 1	8	33S	4W	4800
23G9	King Mountain No. 2	33	32S	4W	3646
23G10	King Mountain No. 3	29	32S	4W	2550
23G11	King Mountain No. 4	20	32S	4W	1779
22G22	Little Red Mountain	25	40S	2W	6500
22G31	Mt. Ashland Switchback	15	40S	1E	6400
23G5	Page Mountain	8	41S	7W	4045
22G5	Park Headquarters	8	31S	6E	6450
22G10P	Seven Lakes No. 1	3	34S	5E	6800
22G11	Seven Lakes No. 2	26	33S	5E	6200
22G2	Silver Burn	30	30S	4E	3720
22G20	Siskiyou Summit	17	40S	2E	4630
22G32	Ski Bowl Road	22	40S	1E	6000
22G9	South Fork Canal	12	33S	3E	3500
22G1	Whaleback	3	31S	2E	5140

Umpqua River

Number	Name	Sec.	Twp.	Rge.	Elev.
22F9	Champion	12	23S	1E	4500
22F18P	Diamond Lake	29	27S	6E	5315
23G7	Eden Valley Summit	10	32S	10W	2390
22F16	North Umpqua	19	26S	6E	4215
22F23	Red Butte No. 1	36	27S	2W	4560
22F24	Red Butte No. 2	30	27S	1W	4000
22F25	Red Butte No. 3	30	27S	1W	3500
22F26	Red Butte No. 4	36	27S	1W	3000
22F27	Red Butte No. 5	20	27S	1W	2500
22F28	Red Butte No. 6	17	27S	1W	2000
22F17	Trap Creek	1	27S	4E	3800
22G1	Whaleback	3	31S	2E	5140
22F15	Windigo Pass	20	25S	6E	5800

KLAMATH WATERSHEDS (10)

Klamath River

Number	Name		Sec.	Twp.	Rge.	Elev.
22G6	Annie Spring		19	31S	6E	6018
22G13	Billie Creek Divide		30	36S	5E	5300
21G5	Bly Mountain		15 & 22	37S	11E	5090
21F11	Chemult		21	27S	8E	4760
22G24*	Cold Springs Camp		12	35S	5E	6100
20G12a	Crazyman Flat		9	34S	15E	6100
20H2a	Crowder Flat	(Cal)	30	47N	11E	5200
22F19	Diamond-Crater Summit		34	28S	6E	5800
21F18	Diamond Lake Jct. (97)		1	29S	7E	4600
21G6a	Dog Hollow		1	40S	14E	4900
20G14a	Finley Corrals		11	36S	16E	6000
22G12	Fourmile Lake		9	36S	5E	6000
21G4P	Gerber		12	39S	13E	4850
22G16	Hyatt Prairie Reservoir		15	39S	3E	4900
22G26	Howard Prairie		32	38S	4E	4500
22G15	Lake of the Woods		11	37S	5E	4960
22G5	Park Headquarters		8	31S	6E	6450
22G25	Pelican Guard Station		9	36S	6E	4150
20G6MP	Quartz Mountain		2	38S	16E	5320
22G10P	Seven Lakes No. 1		3	34S	5E	6800
22G11	Seven Lakes No. 2		26	33S	5E	6200
20H1a	State Line	(Cal)	21	48N	11E	5750
20G9AP	Strawberry		4	40S	16E	5760
20G2AP	Summer Rim		15	33S	16E	7200
21G2	Sun Mountain		22	32S	7½E	5350
20G13a	Sycan Flat		25	31S	14E	5500
21G3	Taylor Butte		22	33S	11E	5100

Pacific Power and Light Company's Snow Stations

Number	Name	Sec.	Twp.	Rge.	Elev.
1	Beatty (PP&L)	22	36S	12E	4300
10	Bly 101 Ranch (PP&L)	22	35S	14E	4800
3	Chiloquin (PP&L)	34	34S	7E	4187
4	Crystal (PP&L)	26	34S	6E	4200
5	Fort Klamath (PP&L)	22	33S	7½E	4150
6	Kirk (PP&L)	1	33S	7E	4533
9	Quartz Mountain (PP&L)	33	37S	16E	5504
8	Harriman Lodge (PP&L)	3	36S	6E	4200
12	Yamsey (PP&L)	20	31S	11E	4600

LAKE COUNTY, GOOSE LAKE WATERSHEDS (11)

Goose Lake

Number	Name		Sec.	Twp.	Rge.	Elev.
20G15a	Bear Flat Meadow		27	36S	19E	5900
20G8MP	Camas Creek		5	39S	21E	5720
20G11a	Cox Flat		16	37S	18E	5750
20G16a	Crane Mountain		13	40S	21E	6020
20H2a	Crowder Flat	(Cal)	30	47N	11E	5200
20H3a	Dismal Swamp	(Cal)	31	48N	16E	7200
20G17a	Patton Meadow		28	38S	18E	6800
20G6MP	Quartz Mountain		2	38S	16E	5320
20H1a	State Line	(Cal)	21	48N	11E	5750
20G9AP	Strawberry		4	40S	16E	5760

Abert Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
20G15a	Bear Flat Meadow	27	36S	19E	5900
20G18AP	Colvin Creek	12	36S	21E	6550
20G11a	Cox Flat	16	37S	18E	5750
20G14a	Finley Corrals	11	36S	16E	6000
20G4	Mill Creek	1	34S	17E	6200
20G6MP	Quartz Mountain	2	38S	16E	5320
20G10a	Sherman Valley	15	37S	21E	6600

Summer Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
20G2AP	Summer Rim	15	33S	16E	7200

Silver Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
21F12P	Silver Creek	25 & 26	29S	13E	4900
20G13a	Sycan Flat	25	31S	14E	5500

Warner Lake

Number	Name		Sec.	Twp.	Rge.	Elev.
20G8MP	Camas Creek		5	39S	21E	5720
20G16a	Crane Mountain		13	40S	21E	6020
20H3a	Dismal Swamp	(Cal)	31	48N	16E	7200
19G1a	Hart Mountain		1	36S	25E	6350
20G10a	Sherman Valley		15	37S	21E	6600

Guano Lake

Number	Name		Sec.	Twp.	Rge.	Elev.
19H1	Bald Mountain	(Nev)	17	45N	21E	6720
19G1a	Hart Mountain		1	36S	25E	6350
19H4a	Little Bully Mt.	(Nev)	8	45N	19E	6600

HARNEY BASIN WATERSHED (12)

Silvies River - Silver Creek

Number	Name	Sec.	Twp.	Rge.	Elev.
18F7a	Call Meadows	29	20S	33E	5340
19F2	Delintment Lake	28	19S	26E	5600
19F3	Emigrant Butte	14	21S	27E	5000
18F3P	Idlewild Camp	27	20S	31E	5200
19E9P	Izee Summit	28	16S	29E	5293
18F1	Rock Spring	23	18S	32E	5100
19F1M	Snow Mountain	1	19S	26E	6300
19E7M	Starr Ridge	20	15S	31E	5150
18F4MP	Stinking Water	33	21S	34E	4800
19F4m	Willow-Bald	19	22S	29E	5000

Donner Und Blitzen River

Number	Name	Sec.	Twp.	Rge.	Elev.
18F6a	Buck Pasture	21	29S	35E	5700
18G2MAP	Fish Creek	4	33S	32½E	7900
19G1a	Hart Mountain	1	36S	25E	6350
18G1MA	Silvies	35	32S	32¾E	6900
18G7a	"V" Lake	31	35½S	32¾E	6600

Trout and Whitehorse Creeks

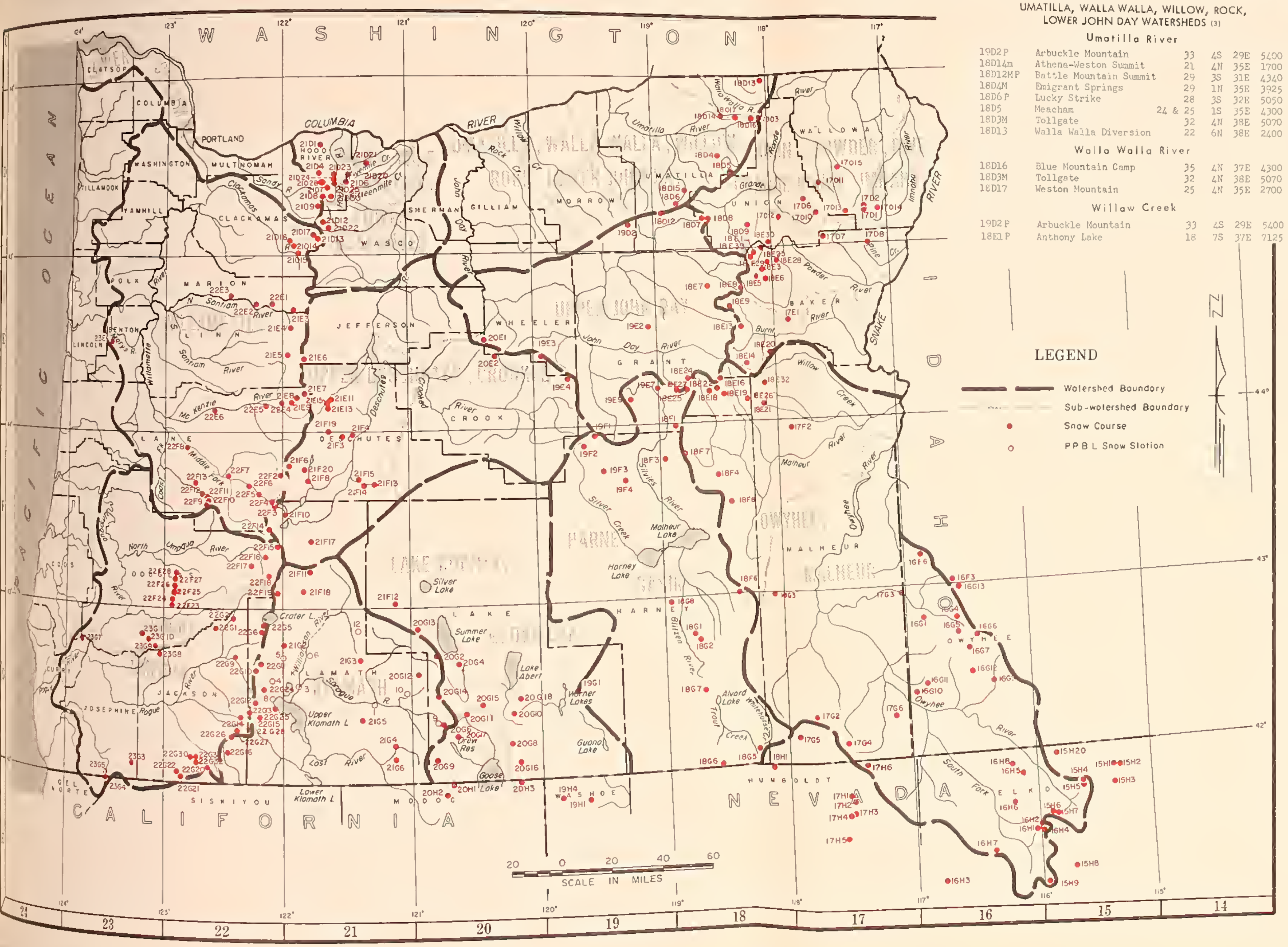
Number	Name		Sec.	Twp.	Rge.	Elev.
18G6a	Denio Creek		14	41S	34E	6000
18H1	Disaster Peak	(Nev)	8	47N	34E	6500
17G5a	Oregon Canyon		9	40S	40E	6950
18G5a	Trout Creek		10	41S	38E	7800

Harney Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
18G8a	Buckskin Lake	2	30S	30E	5200

LEGEND

19D2	SNOW COURSE ONLY
19D2M	SNOW COURSE AND SOIL MOISTURE
19D2MA	SNOW COURSE, SOIL MOISTURE AND AERIAL MARKER
19D2A	SNOW COURSE AND AERIAL MARKER
19D2m	SOIL MOISTURE ONLY
19D2a	AERIAL MARKER ONLY
19D2P	SNOW COURSE AND PRECIPITATION GAGE
19D2p	PRECIPITATION GAGE ONLY
*	RADIO TELEMETRY



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The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE
- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon State University
- Oregon State Engineer and Corps of State Watermasters
- Oregon State Highway Engineers
- Soil and Water Conservation Districts of Oregon

COUNTY
- Douglas County Water Resources Survey

FEDERAL
- Department of Agriculture
  - Cooperative Extension Service
  - Forest Service
  - Soil Conservation Service
- Department of Commerce
  - Weather Bureau
- Department of the Interior
  - Bonneville Power Administration
  - Bureau of Land Management
  - Bureau of Reclamation
  - Fish and Wildlife Service
  - Geological Survey
  - National Park Service
- Department of National Defense
  - Corps of Army Engineers

PUBLIC UTILITIES
- Pacific Power and Light Company
- Portland General Electric Company
- California-Pacific Utilities Company

MUNICIPALITIES
- City of Baker
- City of La Grande
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS
- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Hood River Irrigation District
- Jordan Valley Irrigation District
- Juniper Flat Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- Middle Fork Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale-Oregon Irrigation District
- Warmsprings Irrigation District

PRIVATE ORGANIZATIONS
- Amalgamated Sugar Company
- The Crag Rats, Hood River, Oregon

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